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June 3

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1901.

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The Institute is not responsible for the facts and opinions advanced in the Addresses, Papers, and Articles published in the Journal.

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THE record of the first twenty-five years' work accomplished by The Sanitary Institute was finished in the volume published at the close of the nineteenth century, and the record has been completed by the compilation of a General Index to the whole of these records.

For the last five years the Transactions have been published in the form of a Quarterly Journal, and contain, besides the Transactions of the Institute, matter prepared with much care and expense, which the Council believe to be of considerable interest to the Members: such as Abstracts of Titles of Articles on Public Health appearing in the British and Foreign Journals; Epitome of Law Cases relating to Public Health; Bibliography of Sanitary literature; Reviews of Books, &c.

In beginning the New Series of Transactions with the year 1901, the Council have decided to improve the general appearance of the Journal by increasing the size to a Super Royal page, and to transfer to a Supplement such matters as are more particularly of current interest.

Besides the Papers read and Discussions at the meetings of the Institute, original articles by Members of the Institute, and others, will be inserted from time to time in the Journal.

The Journal and Supplement will be issued concurrently each quarter and both will be issued to the Members and Associates.

Volume XXII.—Part I.] [April, 1901.

SUPPLEMENT TO THE JOURNAL OF THE SANITARY INSTITUTE.

ANNUAL REPORT OF THE COUNCIL

FOR THE YEAR 1900.

Read at the Ordinary General Meeting, March 20th, 1901.

INTRODUCTION.

The Twenty-fifth Annual Report of the Council is presented to the members at the close of the century and at the end of the long and illustrious reign of Queen Victoria, a century and a reign closely identified with the development of sanitation and public health into a science of practical and vital import in every station of life.

ASSOCIATED WORK.

Hygiene in Education.—With a view to securing that more attention shall be given to the practice of hygiene in schools, the Council forwarded a communication to the Education Department urging the desirability of hygiene being included in a definite and comprehensive manner in the curriculum of the Training Colleges, in order that teachers may receive the training necessary for the practice of hygiene in schools. The communication containing the arguments set forth is printed in full in the Journal of the Institute, Vol. XXI., page 644.

They have also commissioned a representative, who is about to make a tour in the United States for the purpose of reporting to the Education Department and the West Riding County Council, to make a special report on the practice and teaching of hygiene in schools in the United States of America, including the training of teachers.

The Tenth Congress of Hygiene and Demography was held this year in Paris in connection with the International Exhibition; a note of the meeting, and the resolutions passed, appear in the Journal of the Institute.

CONFERENCE ON THE HOUSING OF THE WORKING CLASSES.

For the purpose of advancing the consideration of the problem of the housing of the working class population, a subject in which His Majesty the King has been known to take especial interest, and one which presents many difficulties in its solution, the Institute organised a Conference on the subject, on July 30th and 31st. In connection with the Conference an Exhibition of Plans and Models was held in the Parkes Museum.

This entirely occupied the Museum for about a fortnight, during which period four hundred visitors attended, including delegates from London and provincial authorities.

On the first day the Conference was presided over by R. Melvill Beachcroft, L.C.C., and the subject discussed was: "Unhealthy Areas and the Displacement of Town Populations."

On the second day Sir Sidney H. Waterlow, Bart., and Mr. A. Wynter Blyth presided, the subjects discussed were (1) "Improved Housès for Town Dwellers," (2) "Improved Means of Communication."

Delegates were officially appointed to the Meeting by 112 sanitary authorities.

Visits were made to the dwellings erected by the L.C.C. at Millbank and Boundary Street Area, and to those of the Improved Industrial Dwellings Co.

The Artizans' Cottages, erected by the Richmond Town Council, were also visited, the Mayor entertaining the delegates.

The full report of the Conference, with the resolutions passed, is given in Part III., Vol. XXI. of the Journal.

The resolutions which were passed at the Conference have been forwarded by the Council to the members of Her late Majesty's Government, with a communication expressing the hope that time will be found to bring forward in Parliament, without delay, a satisfactory measure of reform on the lines indicated in the resolutions of the Conference. A copy of this communication has been forwarded to the various local authorities who were represented at the Conference, and several of them are taking action in the matter by passing similar resolutions, or by calling the attention of Members of Parliament in their districts to the importance of the subject.

MEETING IN PARIS.

A Meeting of the Institute was held in Paris at the invitation of, and in conjunction with the Société Française d'Hygiène, on August 7th, 8th, and 9th.

Conferences of Medical Officers of Health, of Engineers and Surveyors to County and other Sanitary Authorities, and of Sanitary Inspectors were arranged.

The Meetings were held in the Museum of the Jardin des Plantes.

Visits were made to the Exhibition under the guidance of the heads of Departments, to those sections showing the municipal and sanitary administration of Paris, the Pasteur Institute, the sewers of Paris, and the sewage farm at Gennevilliers.

Seventy Members, Associates, and Delegates, attended the Meeting.

The resolutions passed at the Meeting relating to the international control of infectious disease were forwarded to the Local Government Board.

A full report of the Meeting and copies of the resolutions passed are given in Part II., Vol. XXI. of the Journal, at page 462.

SANITARY LEGISLATION.

The Institute had under consideration the following Bills introduced into Parliament during the year. The action taken by the Council and the fate of the Bill is noted in each case; —

Metropolitan Management Acts Amendment (Bye-Laws) Bill. Brought in by Lord Monkswell.

An Act to amend the provisions of the Metropolis Management Acts with respect to Bye-laws.

The Bill was dropped.

Housing of the Working Classes Act (1890) Amendment Bill. Brought in by Mr. Chaplin, Secretary Sir Matthew White Ridley, Mr. Ritchie, and Mr. T. W. Russell.

A Bill to amend Part III. of the Housing of the Working Classes Act, 1890.

The Council petitioned in favour of the Bill.

The Bill was passed and received the Royal assent.

Isolation Hospitals Amendment Bill. Brought in by the Earl of Lichfield.

An Act to amend the Isolation Hospitals Act, 1893, by enabling Local Authorities to make over existing hospitals to a joint Hospital Committee, and to amend the provisions with regard to contributions to the expenses of hospitals.

The Council petitioned in favour of the Bill.

This Bill was dropped.

Public Health Bill. Brought in by Mr. Percy Thornton, Mr. W. Abraham, Sir H. H. Bemrose, Colonel Chaloner, Mr. W. O.

Clough, Sir Walter Foster, Mr. L. Atherley-Jones, Major Rasch, and Mr. Herbert Robertson.

A Bill to amend the Law, and qualification and tenure of office of Sanitary Inspectors, and to make other relative provisions.

The Council petitioned in favour of the Bill.

This Bill was dropped.

Housing of the Working Classes Bill. Brought in by Mr. Steadman, Mr. John Burns, Captain Norton, and Mr. Woods.

A Bill to amend the Law relating to the housing of the working classes.

The Council petitioned against the Bill.

This Bill was dropped.

Factories and Workshops Bill. Brought in by Secretary Sir Matthew White Ridley, and Mr. Jesse Collings.

A Bill to amend the Factory and Workshops Acts with regard to the regulations for dangerous trades, and the sanitation and safety of premises, and the regulation of labour.

The Council petitioned in favour of the Bill.

This Bill was withdrawn.

Water Supply Bill. Brought in by Mr. Cornwallis, Colonel Warde, and Mr. Griffith-Boscawen.

A Bill to amend the Law respecting the supply of water by companies and other bodies and persons, in respect of inspection of gathering grounds, and works and other matters to prevent the pollution of water.

The Council petitioned in favour of the Bill.

This Bill was withdrawn.

Housing of the Working Classes (Rural Districts) Bill. Brought in by Sir Walter Foster, Mr. Channing, Mr. Stevenson, Mr. Price, Mr. Broadhurst, Mr. Billson, Mr. Frederick Wilson, and Mr. Soames.

A Bill to amend the Housing of the Working Classes Act, 1890, so as to facilitate the provision of cottages by Rural District Councils.

The Council petitioned in favour of this Bill.

This Bill was dropped.

Rivers Pollution Prevention Bill. Brought in by Sir Francis Powell.

A Bill to make more effectual Provision for prevention of the Pollution of Rivers and Streams. The Council petitioned in favour of this Bill, but suggested that the clause relating to solid matter in suspension should be amended so as to include this as a pollution.

The second reading was dropped.

SESSIONAL MEETINGS.

Sessional Meetings for the discussion of subjects of Sanitary interest were held in February, March, April, and December, and the following subjects were brought forward:—

"Insanitary Condition of the London Streets." W. NISBET BLAIR, M.INST.C.E.

"General Conclusions Derived from the Experimental Bacterial Treatment of Raw Sewage, at the Outfalls of the London Sewage into the Thames." Prof. FRANK CLOWES, D.SC., F.I.C.

"The Housing of the Working Classes of London in the Future." THOMAS BLASHILL, F.R.I.B.A.

"Some Practical Aspects of the Plague at Sydney." FRANK TIDSWELL, M.B., D.P.H.

"Plague in an Indian City." S. M. KAKA, D.P.H., F.C.S.

The papers read, with the discussions upon them, have already appeared in the Journal, Vol. XXI.

The Council will be glad to receive from time to time notice of any subjects which are thought desirable for discussion.

LECTURES AND DEMONSTRATIONS ON SANITARY SCIENCE.

The course has been continued with the enlarged scope reported last year, but in the autumn a modification was made in the apportionment of subjects, the Lectures being arranged in a series of groups and one Lecturer allotted to each group.

At the twenty-seventh course in February and March 24 Students entered their names, and at the twenty-eighth course in October and November 32 Students.

A complete list of the Lectures has been given in Vol. XXI. of the Journal.

Technical Exhibitions are awarded by the Technical Education Board of the London County Council to the annual value of five pounds, which may, with the approval of the Board, be applied to paying the expenses of Students in attending these Lectures.

INSPECTIONS AND DEMONSTRATIONS.

Arrangements were made for the Students to visit the places mentioned below in order that they might have the opportunity of observing and noting the difficulties that have to be met in the practical application of Sanitary principles. The names of the gentlemen who arranged the visits and conducted the students are also given:—

John Knight and Sons, Silvertown Soap Works. By kind permission of the Proprietors (2 inspections).

East London Water Works, Lee Bridge. By kind permission of W. B. BRYAN, M.INST.C.E., Engineer to the Company, who conducted the Students.

Express Dairy Company's Farm, College Farm, Finchley.

Friern Barnet Sewage Works. By kind permission of E. J. REYNOLDS, ASSOC.M.INST.C.E., Surveyor to the District Council, who conducted the Students.

Barking Sewage Outfall Works. By kind permission of J. E. WORTH, M.INST.C.E., District Engineer, London County Council, who conducted the Students.

Southwark and Vauxhall Water Works, Hampton. By kind permission of J. W. RESTLER, M.INST.C.E., Engineer to the Company.

Book-keeping as carried out in a Sanitary Inspector's Office. Demonstrations in the Parkes Museum. Given by ALBERT TAYLOR, Chief Sanitary Inspector of St. George's, Hanover Square.

Morden Hall Dairy Farm. By kind permission of, and conducted by, the proprietor, OSCAR J. WHITE.

Aylesbury Dairy Co. By kind permission of J. A. HATTERSLEY, Managing Director.

Ealing Sewage and Destructor Works. By kind permission of CHAS. JONES, M.INST.C.E., Engineer and Surveyor to the District Council (2 inspections), who conducted the Students.

Beddington Sewage Irrigation Farm, Croydon. By kind permission of THOS. WALKER, M.INST.C.E., Borough Engineer, who conducted the Students.

Sutton Sewage Works. By kind permission of C. CHAMBERS SMITH, Town Surveyor, who conducted the Students.

Wimbledon Sewage Works and Farm. By kind permission of C. H. COOPER, M.INST.C.E., Engineer and Surveyor to the District Council, who conducted the Students.

Knacker's Yard. By kind permission of Messrs. HARRISON & BARBER.

Metropolitan Cattle Market. By kind permission of the Corporation of the City of London. Conducted by J. KING, M.R.C.V.S. (2 inspections).

Leyton Sewage and Destructor Works. By kind permission of W. Dawson, M.INST.C.E., Surveyor to the District Council, who conducted the Students.

St. George's, Hanover Square, Sanitary Works in different stages of progress, Disinfecting Station, Mortuary, &c., Model Dwellings (Gatliff Buildings), and Routine Office Work of a Sanitary Inspector. By kind permission of the Vestry. Conducted by A. Taylor, Chief Sanitary Inspector (4 inspections).

London County Council's Common Lodging House, Parker Street, Drury Lane, by kind permission of the Council. Conducted by Frank J. Ruddle, Estates and Valuation Dept., L.C.C. (2 inspections).

Disinfecting Apparatus and Model Steam Laundry. By kind permission of W. G. Lacy (2 inspections), who conducted the Students.

Diseased Meat. Demonstration in the Parkes Museum. By J. King, M.R.C.V.S.

During the period over which each course of Lectures extended the Students had the free use of the Library and Museum at all times when they were open, and special times were set apart during each week for the Students to examine the Museum with the assistance of the Curator.

The Council desire to record their sincere thanks to the Lecturers for the great benefits they have conferred upon the Students, and for the assistance they have given to the diffusion of Sanitary knowledge by the preparation and delivery of these Lectures, and also to those gentlemen who took so much trouble to make the various inspections and demonstrations instructive to the Students.

The Institute is also indebted to the London County Council, Metropolitan Borough Councils and District Councils, and others who are so kindly assisting them with regard to the visits, and in bringing the Lectures under the notice of their officers.

EXAMINATIONS.

During the year arrangements were completed for extending the Examinations of the Institute to New South Wales. A Board of Examiners was appointed consisting of:—

William G. Armstrong, M.B., CH.M., D.P.H., Medical Officer ot Health Metropolitan Combined District, Sydney.

J. L. Bruce, Lecturer on Sanitary Engineering, Technological College, Department of Public Instruction.

ROBERT DICK, M.B., CH.M., D.P.H., Medical Officer of Health, Hunter River Combined District.

JOHN SULMAN, F.R.I.B.A., Lecturer on Architecture, University of Sydney.

J. ASHBURTON THOMPSON, M.D., L.R.C.P., M.R.C.S., D.P.H., Chief Medical Officer of the Government of New South Wales.

FRANK TIDSWELL, M.B., CH.M., D.P.H., Principal Assistant Medical Officer of the Government of New South Wales, and Microbiologist to the Board of Health.

The date for the first Examination was fixed for January, 1901. One of the Members of the Board, Dr. Tidswell, has visited England and has been in consultation with the Institute as to the general conduct of the Examination.

Applications have been made to the Institute to establish centres for Examination in other Provinces of Australia, and also in other parts of the Empire: the subject is under consideration.

The Sanitary Inspectors Examination Board (formed by The Sanitary Institute and other bodies), for holding Examinations under the Public Health (London) Act, 1896, held one Examination during the year in May. At the Examination there were twelve certificates granted.

EXAMINATIONS IN PRACTICAL SANITARY SCIENCE.

During the year Examinations were held at the following places: London (2 Examinations), Birmingham, Cardiff, Edinburgh, Liverpool, Manchester. 36 Candidates presented themselves, to 16 of whom Certificates were granted.

FOR INSPECTORS OF NUISANCES UNDER THE PUBLIC HEALTH ACT, 1875.

Belfast.
Birmingham.
Cardiff.
Edinburgh.
Exeter.
Leeds.
Liverpool.
London (2 Examinations).
Manchester.
Newcastle-upon-Tyne.

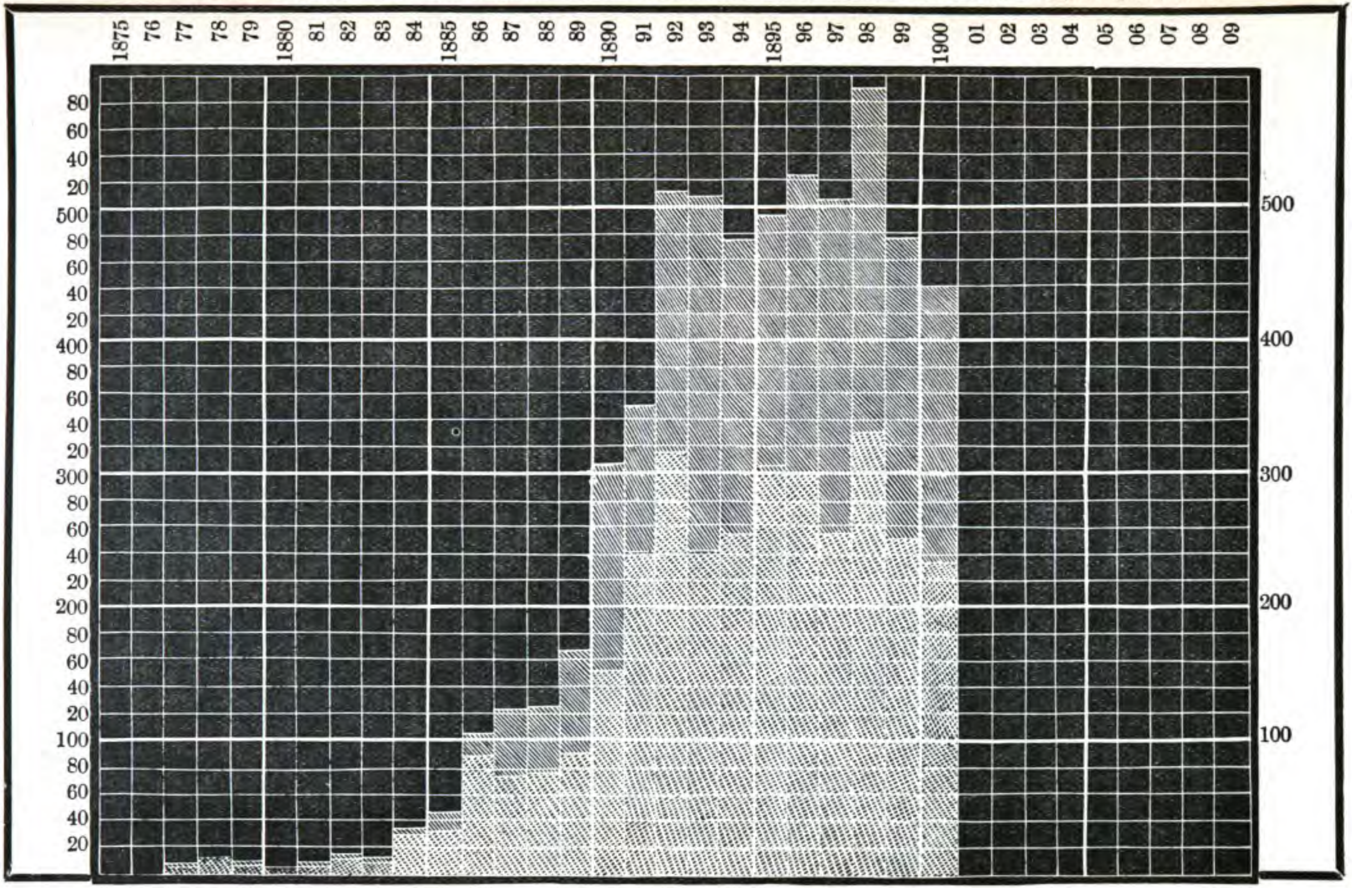
At these Examinations 439 Candidates presented themselves, and 236 were certified competent, as regards their Sanitary knowledge, to discharge the duties of an Inspector of Nuisances under the Public Health Act, 1875.

FOR INSPECTORS OF MEAT AND OTHER FOODS.

During the year Examinations were held in London (2 Examinations), Birmingham, and Liverpool. 32 Candidates presented themselves, to 17 of whom Certificates were granted.

EXAMINATION FOR INSPECTORS OF NUISANCES.

The total number of Candidates is shown by the height of the column shaded and the number who have obtained Certificates by the lighter portion.



IN PRACTICAL HYGIENE FOR SCHOOL TEACHERS.

Examinations were held in London and Leeds. 19 Candidates presented themselves, to 14 of whom Certificates were granted.

Examinations were established by the Institute in 1877, and the following figures show the total number of Examinations held, and the number of candidates :—

	Examinations.	Candidates Entered.	Candidates Certificated.
For Local Surveyors........	35	291	142
Practical Sanitary Science....	41	273	128
Inspectors of Nuisances	129	5,840	3,309
Inspectors of Meat and Other Foods..................	5	45	26
Practical Hygiene for School Teachers................	2	19	14
	212	6,468	3,619

A Diagram relating to the Examinations for Inspectors of Nuisances is given on the previous page.

PARKES MUSEUM.

The visitors to the Museum during the year, including classes from Medical Colleges, Polytechnics, Science Centres, London Board Schools, &c., have appreciably increased, as will be seen by the following table and the estimated number of ordinary visitors. The table shows comparative figures for the past nine years:—

Table showing the number of Classes and Students visiting the Museum

Date.	Institutions from which Classes attended.	Classes.	Students.
1892	13	68	854
1893	21	87	1043
1894	28	48	865
1895	50	93	1695
1896	49	82	1435
1897	53	138	1674
1898	47	97	1958
1899	40	97	2154
1900	51	136	2763

The estimate of ordinary visitors for the year is 8,000.

Thus it will be seen that 10,763 visits are recorded, in addition to the meetings and lectures arranged by the Institute, and nearly 3,000 of these were interested Students visiting the Museum for definite instruction by appointment; in a large majority of these visits the Students were conducted by the Curator, and demonstrations were given by him.

The following Institutions were represented, some of which sent Students on two or more dates:—

Battersea Polytechnic.
Blackheath Road Higher Grade School.
Borough Polytechnic.
Brighton Training College.
Brockley Science School.
Burleigh Road Science Centre.
Carpenters' Company's Institute, Stratford.
Charing Cross Hospital (Public Health Students).
Charterhouse School of Science.
City of London College.
Clyde Street Science Centre.
Convent, Cavendish Square.
Croydon Polytechnic.
Goldsmiths' Institute.
Guy's Hospital (Public Health Students).
Hackford Road Science Centre.
Honeywell Street Board School.
King's College.
Lavender Hill Science School.
London Hospital (Public Health Students).
Military Engineers, Chatham.
National Health Society.
Northern Polytechnic.
Peckham Science School.
People's Palace (Architectural).
Plumstead Higher Grade School.
Plumstead Science Centre.
Regent Street Polytechnic.
Royal Veterinary College.
Rutland Street Board School.
St. Aloysus Convent.
St. Bartholomew's Hospital.
St. George's Hospital (Public Health Students).
St. Stephen's School, Westminster.
Sesame House.
Skinners' Company's School (Girls).
South Norwood Board School.
Southwark Pupil Teachers' Centre.
Summer Road School of Science
Swindon Technical School.
Thomas Street Science Centre.
Thornton Heath Institute.
Tottenham Polytechnic.
Tunbridge Wells Science School.
University College (Public Health Students).
Walworth Road Board School.
Wandsworth Technical Institute
West Norwood Science Centre.
Westbourne Park Institute.
William Street Science Centre
Woolwich Polytechnic.

Twenty-three additions of new exhibits have been made to the museum during the year, including several typical specimens of diseased animal foods, and some excellent models and diagrams of human physiology.

The collection of lantern slides for lecture purposes available to Members and Associates is now much enlarged and contains some six hundred valuable illustrations. Among the additions lately made are thirteen slides of rats and bacilli referring to the plague in Sydney.

The whole of the Museum, with its corridors and galleries, has been re-painted and decorated, and the section of fitted sanitary appliances and other sections of the Museum have been added to and re-arranged.

LIBRARY.

Volumes and Pamphlets numbering 341 have been presented to the Library. Lists of these are published in Vol. XXI. of the Journal.

The number of references made by general readers has increased during the year, but the Library has not been so largely used by those attending the lectures.

Altogether about 400 references were made to the shelves by readers during the year.

For the convenience of Members, Associates, and Students who wish to borrow books for home reading, special arrangements have been made for the loan to them, at a small fee, of books from Lewis's Medical and Scientific Library, which contains a large number of recent text books and standard Sanitary works.

JOURNAL.

The Journal of the Institute, besides being a record of the Transactions and Meetings of the Institute, contains much classified and tabulated matter relating to current sanitary progress and administration. The circulation has now increased to over three thousand copies quarterly, and during the year 12,625 copies were printed.

BUILDING FUND.

The Building Fund, which was referred to in the last Report, having been started with an allotment of £5,000 of capital has been added to by a donation of £100 from Lady Douglas Galton.

When any new building is erected it is proposed to associate with it in some way the names of those who have devoted so much interest and time to its development, and to whose work its progress is so largely due.

ROGERS FIELD BEQUEST.

The Council regret to record that Mr. Rogers Field, whose active and untiring interest in the work of the Institute was so well known, died in the early part of the year. During his life he had made many valuable gifts to the Museum, and by his will he bequeathed to the Institute the sum of five thousand pounds free of legacy duty.

The Council have carefully considered how best to commemorate Mr. Field's work in the Institute, and have decided *inter alia* to offer a Special Medal at the Exhibitions of the Institute for household

EXHIBITIONS HELD IN CONNECTION WITH THE CONGRESSES OF THE INSTITUTE.

	1877. Leamington.	1878. Stafford.	1879. Croydon.	1880. Exeter.	1882. Newcastle.	1883. Glasgow.	1884. Dublin.	1885. Leicester.	1886. York.	1887. Bolton.	1889. Worcester.	1890. Brighton.	1892. Portsmouth.	1894. Liverpool.	1896. Newcastle.	1897. Leeds.	1898. Birmingham.	1899. Southampton
Exhibitors ...	117	116	189	106	110	126	134	135	130	112	108	108	156	146	100	145	197	121
Exhibits ...	294	319	710	500	600	750	900	1,000	900	800	800	1,000	2,000	—	—	—	—	—
Space occupied (in sq. ft.)	—	—	—	9,725	14,520	20,000	40,000	30,000	30,000 and Gr'nds	25,000	28,000 and Gr'nds	30,000 and Gr'nds	35,000 and Gr'nds	25,000	17,310 and Gr'nds	42,000	54,000	22,560 and Gr'nds
Days Exhibition was open ...	14	16	17	19	25	25	19	17	26	29	23	18	24	24	22	23	23	23
Total Visitors	—	—	—	8,955	8,373	20,000	35,000	37,000	30,000	27,000	23,000	35,000	49,000	48,189	51,000	75,790	85,000	37,800
Medals or Silver Medals.	13	13	12	12	15	21	18	34	16	14	30	32	21	29	...	16	18	11
Special Certificates ...	None.	6	9	7	4	13	11	11	12	9	Discontinued							
Certificates or Bronze Med'ls	None.	22	38	40	72	58	83	79	64	40	71	88	76	56	53	41	66	51
Exhibits deferred for further trial	—	7	52	30	37	44	39	119	42	46	67	67	38	59	44	26	30	19

sanitary appliances, and a portrait of Mr. Rogers Field is being painted by Mr. Noel Flower to hang in the meeting room of the Institute.

EXPERIMENTS ON COWLS.

Many years ago a Committee was appointed for the purpose of testing cowls and air meters. The long series of experiments that arose out of this enquiry had been conducted mostly under the superintendence of the late Mr. Rogers Field, who devoted a very large amount of time to the consideration and reduction of the experiments, besides spending personally about £1,500 on the work. Shortly before his death the papers were handed over to the Institute, and Prof. W. N. Shaw, of the Meteorological Office, kindly undertook the task of going through the tabulations of the experiments and completing the report. The work has been steadily progressing, and it is hoped that the report will soon be ready for publication. It is proposed to dedicate the report to the memory of Mr. Rogers Field.

TRAINING IN PRACTICAL HYGIENE.

In order to further advance the usefulness of the examination in practical hygiene for school teachers, it was felt to be necessary that some means should be provided for training students.

This was met in the Midlands by the Technical Instruction Committee of the West Riding County Council establishing a course of practical hygiene for teachers, leading up to the examination of the Institute, which is accepted by the West Riding County Council, as a qualification for teachers; and to meet the need in London, the Council have co-operated with Bedford College for Women in arranging a course of lectures and demonstrations to be given partly at Bedford College and partly at the Institute. The Course is set out in Part IV. of the Journal.

FINANCE.

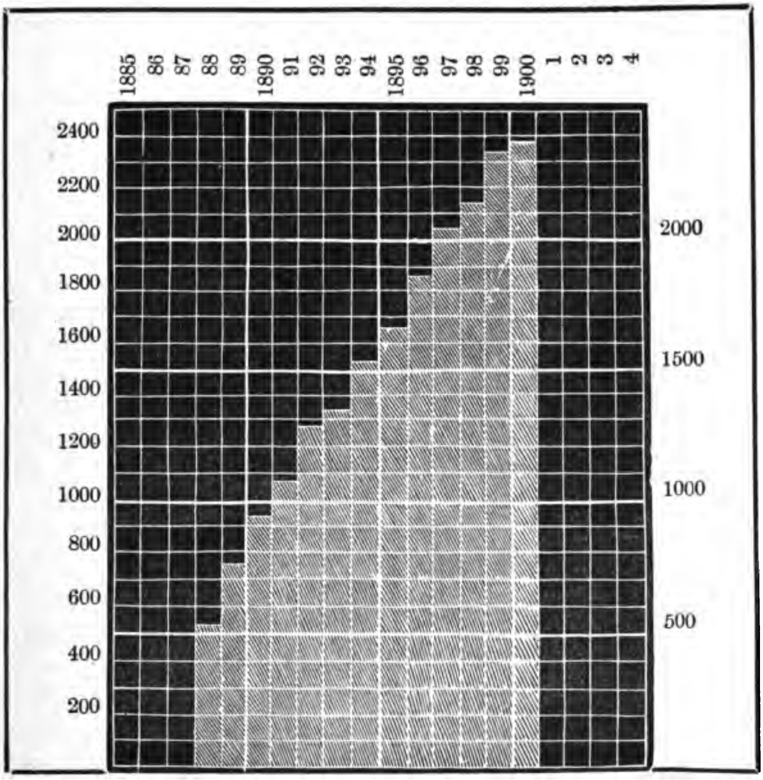
The Statement of Accounts for the year shows a balance of expenditure over income of £700 11s. 4d. This excess is largely due to the expenditure in establishing new examinations; increase on the Museum and the Sanitary Officers' lectures; the cost of the Conference on the Housing of the Working Classes and of the Meeting in Paris; in addition to the fact that no provincial exhibition was held.

EPITOME OF REGISTERS OF MEMBERS AND ASSOCIATES.

The comparison of the roll of the Institute with the preceding year shows a steady increase in the number of Members and Associates.

	Hon. Fellows.	Fellows.	Members.	Associates.	Total.
Dec. 31st, 1899 ……	35	157	842	1290	2324
Dec. 31st, 1900 ……	35	161	884	1298	2378

Diagram showing the Yearly Increase in the Roll of the Institute.



OBITUARY.

Sir Henry W. Acland, Bart., K.C.B., M.D., D.C.L., F.R.S., Rogers Field, B.A., M.INST.C.E., *Vice-Presidents of the Institute;* Henry Law, M.INST.C.E., *Chairman of Council;* Dr. Eugene Janssens, Dr. Modesto, Martinez y Gutherez Pacheco, Dr. Max von Pettenkofer, *Honorary Fellows;* Sir A. W. Blomfield, A.R.A., M.A., F.R.I.B.A., A. G. Davey, M.D., L.R.C.P., M.R.C.S., E. Pritchard, M.INST.C.E., G. J. Symons, F.R.S., *Fellows;* H. Bernton Benjamin, F.R.G.S., J. D. Bradshaw, B.A., M.B., M.R.C.P., Miss F. C. Chattock, J. Glaister, M.D., W. Fraser, ASSOC.M.INST.C.E., S. Johnson, M.D., W. W. Lake, D.P.H., G. Miller, W. Young, *Members;* W. J. Bartlett, E. Clayton, E. Franklin, J. Lapworth, Miss M. K. Le Lean, C. Palliser, G. Williams, Junr., *Associates.*

EPITOME OF THE WORK OF THE INSTITUTE, 1900.

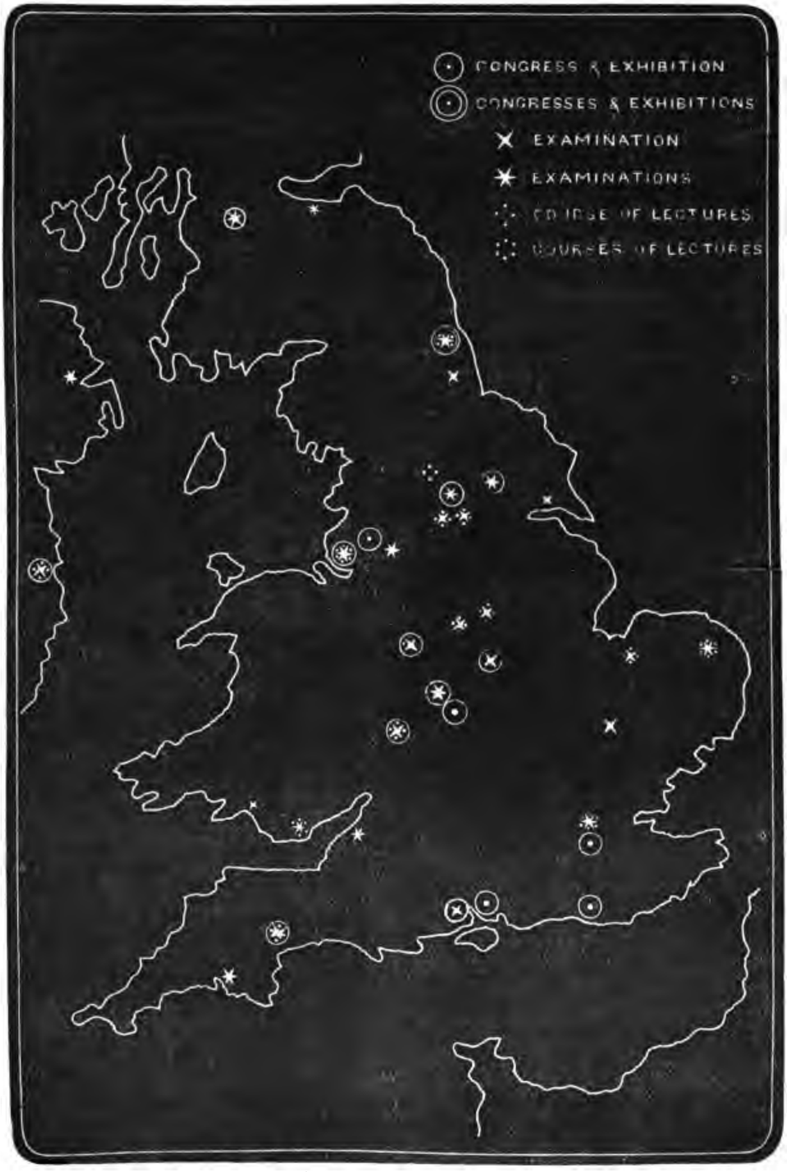
	London Meetings and Examinations.	Total Attendance
4	Sessional Meetings for discussion of Sanitary subjects	186
65	Lectures to Sanitary Officers	1,970
4	Special Demonstrations, Inspection of Meat	129
29	Practical Demonstrations for Sanitary Officers	400
2	Examinations in Practical Sanitary Science	20
1	Examination in Practical Hygiene for School Teachers	6
2	Examinations for Inspectors of Nuisances	148
2	Examination for Inspectors of Meat	21
125	Council and Committee Meetings	745
90	Classes brought to the Museum	1,963
46	Classes at Museum	800
	Visitors to Housing of Working Classes Exhibition	400
	Other persons visiting the Museum *(Estimated)*	8,000
	Provincial Examinations.	
5	Practical Sanitary Science	16
1	Examination in Practical Hygiene for School Teachers	13
9	Examinations for Inspectors of Nuisances	291
2	Examinations for Inspectors of Meat and other Foods	12
2	Conference on Housing of Working Classes	375
3	Meetings at Paris	200

A. WYNTER BLYTH,
Chairman of Council.

E. WHITE WALLIS,
Secretary.

March 13*th*, 1901.

Map showing the various centres to which the work of The Sanitary Institute has been extended.



Congresses, 18. Examinations, 212. Courses of Lectures, 47.

STATEMENT of INCOME and EXPENDITURE

Dr. EXPENDITURE.

	£	s.	d.	£	s.	d.
Establishment Charges:—						
To Rent, Rates, Taxes, and Insurance	496	4	11			
„ Salaries and Wages	1,321	15	6			
„ Coals, Lighting, and Care of Offices	89	16	11			
„ Repairs, Alteration, and Arrangement of Museum	117	17	10			
„ Library, Binding, &c.	9	16	8			
„ Postage and Carriage	199	1	9			
„ Printing, Stationery, and Advertising	210	17	5			
„ Incidental Expenses	86	6	3			
„ Law Charges	3	13	6			
„ Office Furniture	11	1	9			
„ Depreciation of Leaseholds	40	7	5			
				2,586	19	11
Special Expenses, exclusive of Establishment Charges:—						
To Journal and Publications, Cost of Printing, etc., less Sales and Advertisements	505	15	4			
„ Sessional Meetings	20	15	5			
„ Lectures, Sanitary Officers	212	4	4			
„ Examination Expenses	935	16	11			
„ Paris Meeting	498	18	2			
„ Conference on Housing of Working Classes	85	6	5			
„ List of Awards to Exhibits	34	14	8			
„ Experiments	2	13	8			
„ Institute Dinner—Balance of Expenses...	15	17	8			
				2,312	2	7
				4,899	2	6

NETT REVENUE

	£	s.	d.	£	s.	d.
To Amount allotted to Building Fund	5,000	0	0			
„ Cowl Experiments	145	10	5			
„ Balance for the year brought down	700	11	4			
				5,846	1	9
Balance to be carried forward				10,795	14	11
				16,641	16	8

for the Year ended 31st December, 1900.

INCOME.	£	s.	d.	£	s.	d.
General Receipts:—						
By Annual Subscriptions, less Arrears written off	1,661	16	0			
„ Interest on Investments, etc.	385	3	6			
				2,046	19	6
Special Receipts:—						
„ Lectures, Sanitary Officers	173	9	7			
„ Examinations	1,475	19	4			
„ Publications—Farr's—Profit on Sales	1	6	11			
„ List of Awards to Exhibits	11	10	4			
„ Meeting at Paris	449	19	0			
„ Housing of Working Classes Conference	39	6	6			
				2,151	11	8
Balance Excess of Expenditure over Income for the year carried down				700	11	4
				4,899	2	

Cr.

ACCOUNT.

	£	s.	d.
By Balance brought forward from last account (1899)	11,641	16	8
„ Rogers Field Bequest	5,000	0	0
	16,641	16	8

BUILDING

	£ s. d.
To Balance	5,100 10 0
	5,100 10 0

GENERAL BALANCE SHEET,

LIABILITIES.	£ s. d.	£ s. d.
To Fees and Subscriptions paid in advance for 1901	100 2 2	
„ Sundry Creditors	616 15 9	
		716 17 11
„ Balance of Library Catalogue Account	98 2 9	
„ „ Life Composition Fund	407 8 0	
„ „ Building Fund	5,100 10 0	
„ „ Income and Expenditure Account	10,795 14 11	
		16,401 15 8
		17,118 13 7

Examined with the Books, Vouchers, and Accounts and found correct,

1st *March*, 1901.

FUND.

	£	s.	d.
By Nett Revenue Account	5,000	0	0
„ Donations	100	10	0
	5,100	10	0

31st DECEMBER, 1900.

ASSETS.	£	s.	d.	£	s.	d.
By Leases of Premises, Library and Contents of Museum, Furniture and Publications	1,369	1	6			
„ Subscriptions in Arrear and Sundry Debtors	283	0	10			
„ Cash in hand and on Deposit	193	13	3			
				1,845	15	7
„ Investments valued at cost—						
£7,658 11 1 2¾% Consols	7,452	15	0			
£1,000 0 0 3 % India Stock	1,095	1	0			
£1,000 0 0 3½% „	1,156	6	0			
£5,000 0 0 4 % New Zealand Stock	5,568	16	0			
				15,272	18	0
				17,118	13	7

W. COLLINGRIDGE, M.D.,
LASS, WOOD & DREW, Chartered Accountants, } *Auditors.*

ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

Abstracts of Titles classified in this List under the following headings:—

Science in Relation to Hygiene and Preventive Medicine.
Hygiene of Special Classes, Trades and Professions, and Municipal Administration.
Building Materials, Construction, and Machinery.
Water Supply, Sewerage, and Refuse Disposal.
Heating, Lighting, and Ventilating.
Personal and Domestic Hygiene.

The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.

Science in relation to Hygiene and Preventive Medicine.

CALMETTE, A., M.D. Bubonic Plague: its clinical forms in its recent centres. *The Journal of State Medicine*, January, 1901, p. 1.

Being Lecture II. of the Harben Lectures.

CELLI, A. Beitrag zur Erkenntnis der Malariaepidemiologie vom neuesten ätiologischen Standpunkte aus (Dritte vorläufige Mitteilung). *Cent. f. Bakt., Parasit., u. Infektkrnkht.*, Bd. XVIII., p. 530.

Recognition of malaria parasites in the valley of the Po, and in certain Alpine valleys. *Anopheles* present in these districts, but also beyond them. Infection with two or more types of parasite in the same patient.

CHAPMAN, A. C., and ALLAN, A. H. Papers dealing with the detection of Arsenic in Beer and in Brewing Materials. *The Analyst*, January, 1901, p. 8.

D'ARRIGO, G. (Naples). Ueber die Gegenwart und über die Phasen des Koch'schen Bacillus in den sogenannten skrofulösen Lymphdrüsen. *Cent. f. Bakt., Parasit., u. Infektkrnkht.*, Bd. XXVIII., p. 481.

Tubercle bacilli always present in "scrofulous glands." Lymphatic glands act not only as filters, but can diminish or abolish the virulence of the tubercle bacillus; but since they always contain the bacillus may, if the number of bacilli increases greatly, or if the resistance of the organism generally be weakened, become centres for miliary tuberculosis.

GAFFKY, Prof. Dr. Maassregeln zur Bekämpfung der Pest (Measures for the prevention of bubonic plague). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 1, p. 9.

After a few general observations on the nature of bubonic plague, the Author reviews the various preventive measures that ought in his opinion to be adopted both before and after the appearance of the plague. He concludes his paper with eight recommendations covering the whole case.

GALLI-VALERIO, BRUNO (Lausanne). Quelques observations sur la morphologie du *Bacterium pestis*, et sur la transmission de la peste bubonique par les puces des rats et des souris. *Cent. f. Bakt., Parasit., u. Infektkrnkht.*, Bd. XXVIII., p. 842.

Criticism of Simond's assertion that fleas are a common intermediary between rats and man for the transmission of the *B. pestis*, mainly on the ground that the species of fleas most numerous on rats do not bite man. Importance of personal intercourse and fomites in the transmission of plague.

GRASSI, B. (and six others). Erster summarischer Bericht über die Versuche zur Verhütung der Malaria, angestellt in der Gegend von Paestum. *Cent. f. Bakt., Parasit. u. Infektkrnkht*, Bd. XXVIII., p. 535.

Experiment to protect railwaymen and their families (104 persons, including 33 under 10 years) on a certain length of railway in a malarious district; 37 had suffered from recurrences during the winter. Before the malarious season began, all who had had malaria were treated with quinine. During the malarious season protection from *Anopheles* at night by mosquito curtains, or if out of doors by veils and gloves. All remained free from malaria except three who had had it before, and had escaped the preparatory treatment with quinine.

HALDANE, JOHN. A rapid method of determining Carbonic Acid in Air. *Journal of Hygiene*, Jan., 1901, p. 109.

A portable apparatus.

KOHLBRUGGE, J. H. F. (Utrecht). Vibrionen-Studien. *Cent. f. Bakt., Parasit., u. Infektkrnkht*, Bd. XXVIII., pp. 721 and 833.

(1) The ubiquity of cholera-like vibios in water. (2) Panmorphism and hereditary variations.

NUTTALL, G. F. H., COBBETT, L., and STRANGEWAYS-PIGG, T. The geographical distribution of *Anopheles* in relation to the former distribution of Ague in England. *Journal of Hygiene*, January, 1901, p. 4.

Anopheles maculipennis, *A. bifurcatus*, and *A. nigripes* are still to be found in all districts formerly malarious, and also in some places where there is no record of prevalence of ague. Therefore the disappearance of ague does not depend on the extinction of *anopheles*, and the distribution does not exactly correspond with that of *anopheles*.

SCHÜRMEYER, Dr. (Hannover). Widersprüche der Diphtherie-Statistik. *Cent. f. Bakt., Parasit., u. Infektkrnkht.*, Bd. XXVIII., p. 817.

Criticism of conclusions as to the efficacy of diphtheria antitoxic serum, drawn from decline in the death-rate, mainly on the ground that diphtheria, as all infectious diseases, varies in lethality at different epochs.

SMITH, J. LORRAIN, and HOSKINS, A. P. An experiment on the effect of inhalation of Ethylene. *Journal of Hygiene*, January, 1901, p. 123.

Poisonous action of ordinary coal gas and carburetted water gas due not to "illuminant" hydro-carbons, but to carbonic oxide.

SPIESS, Dr. ALEXANDER. Neu erschienene Schriften über öffentliche Gesundheitspflege (New publications relating to public health). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 1, p. 209.

This is a very carefully prepared list (divided into 14 groups) of all new publications relating to public health in German, English, and French.

Hygiene of Special Classes, Trades and Professions, and Municipal Administration.

ADICKES. Die kleinen Wohnungen in Städten, ihre Beschaffung und Verbesserung (Small tenements in towns, their supply and improvement). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 1, p. 178.

The Author deals from the standpoint of a lawyer with the questions: How are the existing unsatisfactory small tenements in Germany to be improved, and how are satisfactory new ones to be provided?

Hellström, F. E. (Helsingfors). Ueber Tuberkelbacillennachweis in Butter und einige vergleichende Untersuchungen über pathogene Keime in Butter aus pasteurisiertem und nicht pasteurisiertem Rahm. *Cent. f. Bakt., Parasit., u. Infektkrnkht*, Bd. XXVIII., p. 543.

In contrast with butter from other places butter made from pasteurised cream was free from pathegenic bacteria, but with great care butter as good from a hygienic point of view can be made without pasteurisation.

Legge, T. M. Industrial Lead Poisoning. *Journal of Hygiene*, Jan., 1901, p. 96.

Causes, symptoms, prevention, analysis, according to trades, of cases of lead poisoning reported by certifying surgeon in 1899.

Morley, F. W. Overcrowding in Domestic Dwelling. *The Builder*, Dec. 8th, 1900, p. 519.

The Author points out that the great obstacle in the way of an efficient remedy was the unsatisfactory state of the land laws; he suggests better and cheaper means of transit, the removal of factories into rural districts, and the teaching of hygiene in schools.

Newsholme, Arthur. The utility of Isolation Hospitals in diminishing the spread of scarlet fever. *Journal of Hygiene*, Jan., 1901, p. 144.

From an epidemiological standpoint—necessity of isolation—causes of incomplete success of isolation hospitals.

Potter, H., A.R.I.B.A. Housing of the Working Classes. *Building News*, Jan. 18th, 1901, p. 83.

Difficulties in designing houses for working classes—methods generally adopted for housing working classes—artisans' dwellings—suburban cottages—experience in Sheffield.

Reincke, Dr. Die kleinen Wohnungen in Städten, ihre Beschaffung und Verbesserung (Small tenements in towns, their supply and improvement). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 1, p. 133.

The Author critically reviews, with the aid of statistical tables, the present state of small tenements in the German Empire, and concludes that means ought to be adopted to ameliorate the present unsatisfactory conditions.

Ricardo, Halsey. The Ideal City. *Journal of the R.I.B.A. (Congress Supplement)*, June, 1900, p. 27.

Stübben. Die kleinen Wohnungen in Städten, ihre Beschaffung und Verbesserung (Small tenements in towns, their supply and improvement). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 1, p. 156.

The Author deals from the standpoint of an engineer and architect with the questions: How are the existing unsatisfactory small tenements in Germany to be improved, and how are satisfactory new ones to be provided?

Building Materials, Construction and Machinery.

"Builder," Editor of the. Glasgow Royal Infirmary Competition. *The Builder*, Jan. 12th, 1901, p. 42.

Description of ten designs sent in by various architects, each of whom received a premium of £100.

"Builder," Editor of the. The L.C.C. and Working-class Dwellings. *The Builder*, Dec. 8th, 1900, p. 504.

A criticism of the proposed scheme of the London County Council to erect cottages at Norbury.

Clifford, H. E. Glasgow Royal Infirmary Reconstruction. *The Builder*, Feb. 2nd, 1901, p. 114.

Description of the design and three sheets of illustrations. This design was placed first by the Assessor, but it is probable it will not be carried out.

Fletcher, Bannister, A.R.I.B.A. The Architecture of the Twentieth Century, from the point of view of Public Health. *The Journal of State Medicine*, January, 1901, p. 10.

Hine, George T., F.R.I.B.A. Asylums and Asylum Planning. *Journal of Royal Institute of British Architects*, Feb. 23rd, 1901, p. 161.

Description of recent Asylums, with plans of those at Hereford (1871), Whittingham (1873), Banstead (1877), Cane Hill (1883), Menston (1888), Gartlock (1896), Nottingham (1880 and 1890), Claybury (1893), Herts County (1900), Horton (1901), Kesteven, East Sussex.

Hine, George T., F.R.I.B.A. Asylums and Asylum Planning. *The Builder*, Feb. 23rd, 1901, p. 180.

Description of recent Asylums, a paper read before the R. I. B. A.

Walmisley, A. T. Covered Sheds for Farmyard Purposes. *The Builder*, Dec. 8th, 1900, p. 507.

Details of construction and materials suitable for sheds, with illustrations.

Water Supply, Sewerage and Refuse Disposal.

Adams, S. H. The Bacterial Treatment of Sewage. *The Surveyor*, Nov. 16th, 1900, p. 560.

Classification of constructional works—sewage sludge—experimental filters—the Sutton works—Manchester experiments—tests and experiments at Crossness—necessity of dealing with every case in accordance with prevailing conditions.

Fraenkel, C., Prof. Dr. Wasserversorgung mittels Thalsperren in gesundheitslicher Beziehung (The hygienic value of a water supply from impounding reservoirs). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 1, p. 54.

The Author reviews the various sources of a supply of drinking water, and comes to the conclusion that the water of impounding reservoirs is hygienically not so good as the water taken from deep wells. Incidentally he remarks that neither the chemical nor the bacteriological examination of a water can be relied upon, and that the best way to ensure its purity is the careful examination of the locality of the source whence it is dissolved.

Intze, Prof. Wasserversorgung mittels Thalsperren in gesundheitlicher Beziehung (The hygienic value of a water supply from impounding reservoirs). *Deutsche Vierteljahrsschrift f. öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 1, p. 31.

The Author describes the various means which ought to be adopted with a view to securing the purity of the water in impounding reservoirs. Incidentally he mentions that the epidemic of typhoid fever in Remscheid was not brought about by the unfiltered water of the impounding reservoirs, but by the water of the deep wells.

Matthews, **Wm.**, M.I.C.E. The protection of Underground Water Supplies. *The Surveyor*, Dec. 14th, 1900, p. 679.

Importance of the subject—law as to pollution—injurious effects of polluted water—methods to prevent contamination—instances of contamination—desirability of more stringent measures to protect sources of supply.

Middleton, R. E., F.S.I. The Future of London's Water Supply. *The Building News*, Dec. 14th, 1900, p. 836.

Estimated population to be provided for—amount of available water—effect of taking water from one district to another.

Middleton, R. E., M.Inst.C.E. The Future of the London Water Supply. *The Builder*, Dec. 15th, 1900, p. 543.

Information and statistics bearing upon the supply which can be obtained from the Thames valley. The discussion which followed this paper is reported in *The Builder* of December 22nd, 1900, p. 566.

RICHARDSON, F. W., F.I.C. The Bradford Sewage and its treatment. *Engineering*, Oct. 26th, 1900, p. 531.

Composition of Bradford sewage—effect of grease from local industries—suggestions for dealing with wool-combers' refuse.

Heating, Lighting, and Ventilating.

RUSSELL, J. NELSON. Low-pressure Hot Water Heating. "*The Surveyor*," Oct. 26th, 1900 (*Supplement*).

The claims of low-pressure hot water for heating: Easily attended to—economical—air warmed by conduction, radiation, and convection.

Personal and Domestic Hygiene.

ABBA, F., and RONDELLI, A. Weitere behufs Desinfection von Wahnräumen mit dem Flügge'schen und dem Schering'schen (kombinierten Aeskulap-Apparat) formogenen Apparat ausgeführte Versuche. *Cent. f. Bakt., Parasit., u. Infektkrankht.*, Bd. XXVIII., p. 377.

Formaldehyde cannot be relied upon as a general disinfectant for rooms, and is admittedly ineffectual for clothes and bedding.

KLEIN, E. Pathogenic Microbes in Milk. *Journal of Hygiene.* Jan., 1901, p. 78.

Occurrence of *B. tuberculosis.* pseudo-tubercle, *B. diphtheriæ, Bact. diphtheroides, Strept. radiatus*, and a pathogenic yeast in London milk.

LEATHER, J. WALTER, Ph.D., F.I.C. The composition of Indian Cows' and Buffaloes' Milk. *The Analyst*, February, p. 40.

MERKEL, Dr. SIGMUND. Hygiene des Radfahrens (The hygienic value of cycling). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII.. Heft 1, p. 119.

The Author, after having carefully reviewed the subject, comes to the conclusion that cycling should only be indulged in by healthy persons, and that racing ought to be condemned.

PRAUSNITZ, Prof. Dr. Ursachen und Bekämpfung der hohen Säuglingssterblichkeit (Causes and means of prevention of high infantile mortality). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 1, p. 83.

The Author reviews the causes of high infantile mortalities and the means that have been adopted to prevent them. He comes to the conclusion that neither sterilised milk nor chemical substitutes for milk have proved very successful, and that the sanitary condition of the dwellings plays the most important part in this respect.

VON WUNSCHEIM, O. Ueber einen Apparat für Erregung von gesättigtem Wasserdampf und sterilem Wasser. *Cent. f. Bakt., Parasit., u. Infektkrnkht.*, Bd. XXVIII., p. 439.

Apparatus to be connected with steam heating pipes to sterilise small objects (dressings, etc.), and to furnish distilled (sterile) water.

REVIEWS OF BOOKS.

REPORT TO THE LOCAL GOVERNMENT BOARD ON RECENT EPIDEMIC ARSENICAL POISONING ATTRIBUTED TO BEER.*

In the short report with this title, which has been presented to Parliament by command of His Majesty, Dr. G. S. Buchanan gives in a convenient form the main facts with regard to the remarkable prevalence during the last quarter of 1900 of peripheral neuritis among persons addicted to the drinking of beer in Manchester, Salford, Liverpool, Lichfield, and some other parts of Lancashire, Yorkshire, Staffordshire, and other districts in the Midlands. The report is founded on information gained by Dr. Buchanan, with whom Dr. Darra Mair was associated when the wide-spread character of the outbreak was realised, during a series of visits to affected localities. The main scientific interest of the occurrence lies in the questions which it has raised with regard to the true etiology of (1) that form of peripheral neuritis usually attributed to the excessive use of alcohol, and (2) of outbreaks of epidemic disease on shipboard heretofore classed as beri-beri. From the public health point of view perhaps the most instructive fact is that cases had been occurring certainly from the month of September, although no hint of their true explanation was given until the publication of Dr. E. S. Reynolds' paper in the *British Medical Journal*, on November 24th, 1900. The increase in the number of deaths in Salford had a short time previously led Dr. Tattersall to begin an enquiry, and as soon as the suggestion of arsenic was made that poison was found by Dr. Reynolds, Prof. Delépine, and Dr. Tattersall in the beer supplied from certain breweries. Their observations were, after a period of scepticism, confirmed by analytical chemists. It was soon ascertained that the beer which the majority of those who suffered from peripheral neuritis had been in the habit of drinking contained relatively large quantities of arsenious acid up to as much as 1½ grains per gallon (21·4 parts per million). It is, however, remarkable that neuritis has been produced by beers containing as little as one-third and even one-eighth grain per gallon, even in persons who were said to have drunk only quite small quantities of beer, and who must therefore have taken daily an amount of arsenious acid, very much less than is often given medicinally with advantage. In those beers in which arsenious acid was present in large quantities, it was traced to glucose and invert sugar made with impure sulphuric acid. But the attention recently given to the subject has caused public analysts to become aware of the fact, previously it would seem overlooked or ignored by them, that beer made without glucose or invert sugar, or containing one or other of these ingredients proved free from arsenic, may yet contain arsenic in proportion as high as one-tenth grain per gallon. It is suggested that in such a case the arsenic may be present in the malt which "in the malting kiln may absorb arsenious acid which reaches it in consequence of the combustion of arsenical coal, coke, or sulphur." To meet such cases an expert committee, appointed by the Manchester Brewers Central Association, have recommended a test, which in their view might be taken as a maximum limit to the minute quantity of arsenic which should be allowed in beer. This test, set out by Dr. Buchanan in an appendix, is an amplification of Reinsch's, and would, it is stated, certainly condemn a beer containing one part of arsenious acid in 1,500,000 (about one-tenth grain per gallon).

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* By Dr. G. S. Buchanan. (Presented to both Houses of Parliament by command of His Majesty.) London: printed for His Majesty's Stationery Office. 1901. Price 2½d.

D. W.

THE JOURNAL OF HYGIENE.*

The editors of the new *Journal of Hygiene*, which first saw the light in the first month of the new century, are to be congratulated on the contents, and on the appearance of the first number, and also, let it be said, on the courage which they have displayed in undertaking such an enterprise. It is sincerely to be hoped that they will meet with the encouragement they deserve from the rather limited public which they address. There is undoubtedly room for a periodical devoted to the publication of original investigations in hygiene, especially those which are concerned with the "neutral zone," between the territories of chemistry, pathology, and biology.

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* *The Journal of Hygiene*, edited by George H. F. Nuttall, M.D., Ph.D., Lecturer in Bacteriology and Preventive Medicine in the University of Cambridge; in conjunction with John S. Haldane, M.D., F.R.S., Lecturer in Physiology in the University of Oxford, and Arthur Newsholme, M.D., F.R.C.P., Medical Officer of Health of Brighton. Cambridge University Press. London: C. J. Clay and Sons, and H. K. Lewis. The subscription price, payable in advance, is 15s. per volume (post free); single numbers, 5s. net.

It is significant, perhaps, that of the nine articles in this number, only two have to do with bacteriology. The place of honour is given to two studies in relation to malaria. The first, by Drs. Nuttall and Cobbett, and Mr. Strangeways-Pigg, is on the geographical distribution of anopheles in relation to the former distribution of ague in England. This paper, which is illustrated by two maps, is the result of an immense amount of inquiry and observation, and the writers conclude that the disappearance of ague from Great Britain does not depend upon the extinction of mosquitos capable of harbouring the parasites of malaria. Three species of anopheles are to be found in Great Britain in all districts which were formerly malarious, but they are present also in places concerning which there is no record of the prevalence of ague. This fact, it is insisted, disproves Grassi's generalisation, founded on observations made in Italy, to the effect that the distribution of anopheles and of ague coincide, and that the influence of other blood-sucking insects, as possible hosts of the malarial parasites, may be excluded on this ground alone. The writers of the article in the *Journal of Hygiene* find that anopheles to-day are most numerous in low-lying land containing ditches, ponds, and slowly flowing water suitable for their habitat, and corresponding to the districts where ague was formerly prevalent. They argue that since the disapperance of ague does not depend upon the extinction of anopheles, it is due to several causes co-operating: (*a*) a reduction in the number of these insects consequent upon drainage of the land, (*b*) a reduction of the population in infected districts, which would reduce the number of infected individuals and thus lessen the chance of the anopheles becoming infected, and (*c*) that the use of quinine may have reduced the chance of infecting the anopheles by checking the development of the parasites in the blood of subjects affected with ague. The second study is the first part of an essay on the structure and biology of anopheles by Dr. Nuttall, and Mr. A. E. Shipley, and is illustrated by an excellent coloured drawing of *Anopheles Maculipennis*, and of black and white drawings of the larvæ and pupæ. It is difficult to see why the male insect should have been selected for illustration, as it is the female which bites. The other papers are by Dr. Klein, on pathogenic microbes in milk, dealing mainly with tuberculosis; by Dr. T. M. Legge, on industrial lead poisoning; by Dr. John Haldane, two papers, the one on an improved method of determining carbonic acid in air, and the other on the red colour of salted meat; a paper by Dr. James Ritchie on artificial modifications of toxines, with special reference to immunity; an essay by Dr. Arthur Newsholme on the utility of isolation hospitals in diminishing the spread of scarlet fever, considered from an epidemiological standpoint; and a short note by Dr. Lorrain Smith and Mr. A. P. Hoskins on the effect of inhalation of Ethylene. A letter from Sir John Simon to the editors is printed in this number. He congratulates them on the work they have begun, and on the moment chosen for beginning it. "The past two centuries, and especially the last fifty years," he writes, "have been beyond measure progressive in the departments of knowledge to which your undertaking relates; mare's-nests in science are tending to be a constantly diminishing quantity; and the time seems now to have come when a new journal edited by representative men of Oxford, Cambridge, and London, may surely expect to escape pitfalls, and to represent in the main what shall prove to be advances in true knowledge."

D. W.

LAND SURVEYING AND LEVELLING.*

The author commences his preface by stating that he does not claim that the study of this volume will enable a reader to thoroughly understand the art of land surveying and levelling, pointing out the advantage, necessity even, of a course of instruction in the field, if only a short one; with this we entirely agree, and at the same time welcome this useful little volume as a means by which the student can thoroughly ground himself in the theory of the subject, and such practical knowledge of it as can be obtained from books.

The author commences with general instructions and proceeds step by step from the simpler to the more difficult operations coming within the range of practical surveying, and giving also useful and explicit directions for the plotting of surveys and the preparation of plans; the chapters on Plans for Deposit, Parliamentary Surveying, and Railway Work, are of great value for reference.

In dealing with the use of trigonometry, the author mentions that no survey of any great extent can be conducted without its aid, but his remarks on the science and its application in surveying are limited.

At the end a schedule of the professional charges of architects is given, but the need of it in a work on this subject is not altogether apparent.

It is noticeable also that the instruments employed are but mentioned in this book, the author having described them in detail in "Field Work and Instruments," which is intended to be a companion volume to this one.

For the rest the book is carefully written, much detail being entered into, and the diagrams are very clear and of great help in elucidating the matter in the text; moreover the printing and general get-up of the book is very good.

J. E. W.

FIELD WORK AND INSTRUMENTS.†

This book is a fitting companion volume to "Land Surveying and Levelling," by the same author.

It is evidently most important that the surveyor, in order to master his profession, should be thoroughly conversant with the use and manipulation of the various instruments which fill so important a place in his operations; moreover the professional examining bodies set a considerable value upon the possession of such knowledge by their candidates, and to attain this end it is necessary to understand their practical construction.

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* By A. T. Walmisley, M.I.C.E. London: D. Fourdrinier. 1900. 232 pp., 8vo. Price 7s. 6d.

† By A. T. Walmisley, M.I.C.E. London: D. Fourdrinier. 1900. 279 pp., 8vo. Price 6s.

There has been need of a treatise dealing with the subject in a practical manner, and entering into just sufficient detail to meet the student's case, and this the author has successfully endeavoured to meet, and has given a description of the principal instruments in use by engineers and surveyors, dealing with the chief points in their construction, and discussing their practical use in the field; the chapters on the Theodolite and Telemeter being worthy of note.

There are several varieties of instruments mentioned, which are rarely, if ever, used at the present time, and might well have been omitted.

The diagrams, which are drawn to a large scale, are complete and self-explanatory, and in each case are given side by side with the descriptive text.

With the exception of the explanatory text on some of the sheets of illustrative diagrams the printing is clear and good, while the general arrangement of the subject is excellent.

J. E. W.

STRUCTURAL IRON AND STEEL.*

The full title of this volume describes it as a text book for architects, engineers, builders, and science students, and to all persons studying the subject of the application of iron and steel in the construction of buildings, and requiring a reliable text book, it is to be highly recommended.

It is divided into three parts: (1) Physical properties of iron and steel, in which the production of iron, its manufacture into cast and wrought iron and steel, the various stresses which these latter have to sustain, and their different forms of strength, are discussed.

In Part II. joints and connections are explained in detail, the necessary operations being dealt with from first to last.

In Part III., columns and beams, the chapters treat of the strength of cast iron, wrought iron and steel columns and their connections, external load, bending moment, and shearing force in beams, internal stresses, strength of beams, their details and connections, and the framing of floors.

It has been part of the author's purpose to supply the architectural student with the means of acquiring such a thorough knowledge of this subject that he shall be able to design and use constructional iron and steel in his building without obtaining other advice.

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* By W. N. Twelvetrees, M.I.M.E. London: D. Fourdrinier. 1900. 144 pp. 8vo. Price 7s.

The author deals with his subject in a practical fashion, the matter being clearly and yet tersely set forth.

In the text much of the information is given in a convenient tabular form, and accompanied by a caution against reliance on formulæ without knowing the true purport of the data to be employed.

In an appendix the author gives a useful specification for structural steel, several tables of weights, gauges, etc., and other useful information.

It is in our opinion a valuable and comprehensive treatise and deserving of a high place among the literature of the subject.

J. E. W.

STRESSES AND STRAINS;

THEIR CALCULATION AND THAT OF THEIR RESISTANCES, BY FORMULÆ AND GRAPHIC METHODS.*

This compact little volume treats of a variety of subjects covering a wide field, and is eminently suited for its purpose.

The author states in his preface that it is intended for the use of architectural students preparing for the R.I.B.A. examinations.

With a view of rendering it more suitable as a handbook for the ordinary student, the author has refrained from introducing the usual mathematical calculations, so that the production will meet the need of anyone having but an elementary knowledge of mathematics.

We are of opinion that if the architectural student is to take up this subject he should do so thoroughly, first of all obtaining an elementary knowledge of mathematics and mechanics, instead of having to take the formulæ given on faith and without understanding them.

The author deals with the properties of beams, nature of strains, moments, the reciprocal diagrams of forces, and graphic methods of calculation, and in the chapters on stanchions and columns, girders, arches and abutments, retaining walls and hydraulics of pipes, the various subjects are simply but thoroughly explained.

The simple calculations, especially in the preliminary chapter on "Formulæ," are clearly worked out.

A useful set of tables for reference, giving strength of various materials and other data, forms the last chapter, and there is also a list of plates illustrating the texts and the working of the problems by graphic methods.

In an appendix numerous examples of questions set at the R.I.B.A. examinations are given, thereby amplifying a useful work.

The author is to be congratulated on having produced a really practical book which is, in addition, well printed on good paper and conveniently got up.

J. E. W.

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* By Frederick Richard Farrow, F.R.I.B.A. London: D. Fourdrinier. 1900. 144 pp., 8vo. Price 5s.

HYGIENE AND PUBLIC HEALTH.*

Under this title, a book written by Dr. Louis Parkes has already passed through five editions and the present volume is practically the same book, much enlarged, partly re-written, and generally brought up to date.

The fact that the original work passed in a few years through so many editions, speaks volumes for its popularity, and good as the old one was, it is quite safe to predict an even extended popularity for the present issue.

The object of the Authors has been apparently to strengthen the book on what may be termed its public health side, *i.e.*, on those points dealing largely with sanitary administration, and very well has the work been done. It has the advantage of being written not only by practical men, but by capable administrators, with the result that the descriptions carry conviction to the reader. As a text-book, a notable omission is that of laboratory methods, but for this nothing but commendation can be given; the Authors wisely believing that for this practical work, a laboratory text-book should be consulted.

The book is accurate, and its style is all that can be desired, and the Authors on the one hand, and the profession on the other, can be congratulated on a work which may quite properly be taken as a model of what a scientific text-book should be.

A. B. H.

THE ESSENTIALS OF PRACTICAL BACTERIOLOGY†

This is a book composed of expanded lessons given by the author when in charge of the Bacteriological Department of University College, London. It is a work intended for those working for a Diploma in Public Health as well as for clinical bacteriologists.

The subject matter is arranged in two parts, dealing with (1) the manufacture of nutrient media and general technique; and (2) the systematic study of micro-organisms, this latter part being divided into non-pathogenic and pathogenic organisms; there are also three appendices of more or less utility.

The section on general technique and the descriptions of organisms, with the methods of cultivation and staining, are most carefully and clearly set forth throughout the whole of the book, nothing being left to the imagination of the student, as is so often the case in works on bacteriology.

The section on non-pathogenic organisms is good as far as it goes, the author evidently thinking it better to describe a few organisms thoroughly than to treat a large number less fully.

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*By Louis Parkes, M.D., D.P.H., and Henry Kenwood, M.B., D.P.H. London: H. K. Lewis. 1901. 732 pp. Price 12s.

† The Essentials of Practical Bacteriology, by H. J. Curtis, B.S. and M.D. (Lond.), F.R.C.S. London: Longmans, Green & Co. 291 pp., 8vo. Price 9s.

Just exception may be taken to the introduction into a practical work of dissertations on Fermentation, Putrefaction, Suppuration, Immunity and Immunisation, and other matters, which are not only out of place, but, unless treated fully, are far better left alone.

The value of the book to students in Public Health would have been increased if the sections on the examination of water, air, and disinfectants had been treated more fully.

The illustrators, Mrs. Danielsson and Mr. Sheills, are to be congratulated on the excellence of their work, although the utility of some of the representations of cultures is open to doubt, as, unfortunately, black and white illustrations can give no real idea of their appearances.

Dr. Curtis has succeeded in the difficult task of bringing the work up to date, reference being made to original work, almost up to the date of issue, and he has carried out the work as a whole so well, that it is sure to find a place in the library of every practical bacteriologist.

M. W. B.

HYGIENE IN EDUCATION.

The Council have addressed the following communication to the Board of Education:—

To the Consultative Committee of
The Board of Education.

Dear Sir,—The Council of the Sanitary Institute have devoted great attention to the questions pertaining to the health of the school population of the country, and the subject has been brought forward in addresses and papers that have been discussed at the meetings of the Institute, both in London and in large provincial towns. I am directed to advert to Clause 3 of the Board of Education Act, which refers to the provisions made for the teaching and health of the scholars in schools supplying secondary education.

The Council desire to remind the Committee, that although the planning and arrangement of school buildings forms an essential part of the subject, and the direct teaching in the schools of matters pertaining to the laws of health is very desirable, it is, although frequently overlooked, extremely important that the scholars should, by the practice of hygiene in the management of the schools, have an environment which is in accordance with the laws of health.

This can only be accomplished where the teachers have themselves been practically trained, and understand how the laws of health enter into every department of school life, the mental as well as the physical, and that the subject is one that must be inculcated in the child by observation and experiment.

In order to further the practice of hygiene in schools the Institute have prepared a syllabus indicating the scope of the subject. This syllabus also shows how almost every branch of a teacher's knowledge can be brought to bear upon the laws of health. In order, however, that this wide view of the question may be brought under the notice of school managers and teachers and made effective, it is necessary that the Education Department should in some way direct the teaching of the subject on this wide basis.

The Council would therefore urge that the competence of teachers practically to apply the laws of health in the management of the children and the buildings under their care should be specially taken into account in any inspections made.

They would further urge that the importance of the subject should be emphasised by the Education Department requiring some certificate, such as that granted under the syllabus arranged by the Institute, as necessary or desirable for all teachers seeking registration under Clause 4 of the Act.

I am, Sir,
Yours faithfully,
(Signed) E. White Wallis,
Secretary.

6th March, 1901.

TO THE KING'S MOST EXCELLENT MAJESTY.

The Humble Address of The Sanitary Institute.

May it please your Majesty,

We, your Majesty's most loyal and dutiful subjects, the President, Vice-Presidents, and Council of The Sanitary Institute in Special Meeting assembled, acting for and on behalf of two thousand five hundred Members of the Institute in all parts of the United Kingdom, the Colonies and Empire, desire humbly to approach your Majesty with the expression of profound sorrow for the grievous loss which your Majesty and the Empire, and all your world-wide subjects, have sustained by the death of your beloved Mother and our late most Gracious Sovereign Queen Victoria.

Among the many noble attributes that endeared the Queen to the hearts of her people, none was more potent than her widespread sympathy with all classes of her subjects, and in no branch was this more markedly shown during her long reign than in the interest which our late beloved Queen, and several members of her Royal House, specially showed in the adoption and development of measures for the improvement of the health of the people, and the conditions under which they, especially the poorer classes of them, live.

Sharing most profoundly the deep grief felt by the country and Empire at large, we earnestly trust that the knowledge of this universal sympathy, to which we humbly venture to add our tribute, may tend to soften in some degree the sorrow which has fallen on your Majesty and your Royal and Imperial House.

In conclusion, we desire humbly to express our individual and corporate loyalty to your Majesty's throne and person, and our fervent hope and earnest prayer that your Majesty may be long spared to reign over a loyal and devoted people.

Signed on behalf of the Institute, this .... day of January, in the year one thousand nine hundred and one.

George, *President.*

And the Common Seal of the Institute was hereunto affixed in the presence of us,

SEAL.

A. Wynter Blyth,
Chairman of Council.

W. Guyer Hunter,
Registrar.

MEETINGS HELD JANUARY TO APRIL, 1901.

Ordinary General Meeting.

The Ordinary General Meeting was held on March 26th. The Annual Report and Statement of Accounts for 1900 were submitted. The Report, on page 3 of this Supplement, gives an account of the various branches of work undertaken by the Institute.

The following resolution was passed, and the Officers and Members of Council were elected or re-elected :—

> "That this meeting greatly appreciates the interest taken in the work ot the Institute by His Royal Highness the Duke of Cambridge, and the assistance given by him in graciously holding the office of President. That the best thanks of the Institute are due and hereby presented to His Royal Highness, and that this Meeting fully approve of the action taken by the Council in accordance with the powers conferred upon them by Article 50A, in reappointing His Royal Highness the Duke of Cambridge as President for another year."

Vice-Presidents.

His Grace the Lord Archbishop of Canterbury, P.C., D.D.
His Grace the Duke of Northumberland, K.G., P.C.
Right Hon. Earl Fortescue.
Sir F. Abel, Bart., K.C.B., G.C.V.O., D.Sc., D.C.L., F.R.S.
Sir Joseph Fayrer, Bart., K.C.S.I., LL.D., M.D., F.R.S.
Sir Francis Sharp Powell, Bart., M.P.
Sir W. Guyer Hunter, K.C.M.G., K.H.S., M.D., LL.D., F.R.C.P.
Sir William Henry Preece, K.C.B., F.R.S., M.Inst.C.E.
Sir Thomas Salt, Bart., M.A., D.L., J.P.
Sir Henry Thompson, Bart., F.R.C.S., M.B.Lond.
Prof. W. H. Corfield, M.A., M.D.Oxon., F.R.C.P., F.I.C., F.C.S., F.G.S.
A. Waterhouse, R.A., F.R.I.B.A., LL.D.

To fill the vacancies on the Council.

Lewis Angell, M.Inst.C.E., F.R.I.B.A.
Bushell Anningson, M.A., M.D.
Christopher Childs, M.A., M.D., M.R.C.S., D.P.H., F.C.S.
W. Santo Crimp, M.Inst.C.E.
Edwin T. Hall, F.R.I.B.A.
H. R. Kenwood, M.B., D.P.H.
William Whitaker, B.A., F.R.S., F.G.S.
John Edward Worth, M.Inst.C.E.

Treasurer.

Prof. W. H. Corfield, M.A., M.D., F.R.C.P., F.I.C., F.C.S., F.G.S.

Auditors.

W. Collingridge, M.A., M.D., LL.B., D.P.H.
Alfred Lass, Wood & Drew.

SESSIONAL MEETINGS.

Meetings were held as follows: on February 13th a Discussion was opened by Mr. T. BLASHILL, F.R.I.B.A., on "The State of London Streets"; Sir Alexander Binnie, M.Inst.C.E., in the chair.

March 13th, on "Ventilation; Success and Failures of the Methods at present in use"; by CHRISTOPHER CHILDS, M.A., M.D., D.P.H.; Mr. J. Osborne Smith, F.R.I.B.A., in the chair.

These Papers and Discussions are printed in the JOURNAL, pp. 3 and 24.

COURSE OF TRAINING IN PRACTICAL HYGIENE.

A Course of Thirty Lectures, under the auspices of the Institute and Bedford College, commenced on January 19th, and will be continued during Easter Term, commencing May 4th, and Michaelmas Term, commencing October 5th, 1901.

EXAMINATIONS.

From January to April the following Examinations were held:—

PRACTICAL SANITARY SCIENCE.

January 12th and 19th, Sydney, New South Wales. 3 Candidates, 1 Certificate granted.
January 25th and 26th, Bristol. 3 Candidates, 2 Certificates granted.
March 8th and 9th, Edinburgh. 2 Candidates, 1 Certificate granted.
March 22nd and 23rd, Birmingham. 6 Candidates, 5 Certificates granted.

INSPECTORS OF NUISANCES.

January 12th and 19th, Sydney, New South Wales. 51 Candidates, 28 Certificates granted.
January 25th and 26th, Bristol. 18 Candidates, 12 Certificates granted.
March 8th and 9th, Edinburgh. 26 Candidates, 17 Certificates granted.
March 22nd and 23rd, Birmingham. 47 Candidates, 23 Certificates granted.

INSPECTORS OF MEAT AND OTHER FOODS.

March 29th and 30th, Birmingham. 5 Candidates, 1 Certificate granted.

Practical Sanitary Science.

1901, Jan. 26.	Bracher, Walter Stanley.
1901, Mar. 23.	Fellows, Thomas Edgar.
1901, Jan. 19.	Lawson, Frederick Washington.
1901, Mar. 9.	Marie, Carolus.
1901, Mar. 23.	Mason, Arnold Stewart.
1901, Mar. 23.	Naz, Joseph Lois.
1901, Mar. 23.	Smedley, William Robert.
1901. Mar. 23.	Smith, William.
1901, Jan. 26.	Thorp, William Osborn.

Inspectors of Nuisances.

1901, Jan. 26.	Arnold, Herbert.
1901, Jan. 19.	Barber, Frederick William.
1901, Mar. 9.	Barclay, William Kirk.
1901, Mar. 9.	Bell, Charles Wood.
1901, Mar. 23.	Berry, George Frederick.
1901, Jan. 26.	Bidwell, George.
1901, Mar. 23.	Blincoe, Thomas Frederick.
1901, Jan. 26.	Brown, Frederick James.
1901, Jan. 26.	Carter, Edward.
1901, Jan. 26.	Carter, William Derham.
1901, Mar. 23.	Cartlidge, Frank.
1901, Jan. 26.	Chant, Alfred.
1901, Mar. 9.	Christie, George.
1901, Mar. 9.	Clark, Hugh.
1901, Jan. 19.	Connell, Thomas.
1901, Jan. 19.	Cresswick, Ernest.
1901, Mar. 9.	Crockett, Andrew.
1901, Jan. 19.	Cuddy, Frederick Alexander.
1901, Jan. 19.	Davis, Frederick.
1901, Mar. 23.	Davison, John Emmanuel.
1901, Jan. 19.	de Carteret, Reginald Malet.
1901, Mar. 9.	Dick, William.
1901, Jan. 19.	Duncan, John.
1901, Jan. 19.	Field, Albert Ebenezer.
1901, Mar. 9.	Fletcher, James.
1901, Jan. 19.	Fraser, Roderick Aird.
1901, Jan. 26.	Greenep, William Henry.
1901, Jan. 19.	Gundry, William Edward.
1901, Mar. 9.	Halliday, John.
1901, Mar. 23.	Holker, Jacob.
1901, Mar. 23.	Hunter, Harry.
1901, Mar. 23.	Inskip, Frederick Daniel.
1901, Jan. 19.	James, Thomas Annandale.
1901, Mar. 23.	Joint, Charles.
1901, Mar. 23.	Jones, Harry Lee.
1901, Jan. 19.	Joyce, Thomas Francis.

1901, Jan. 19.	Kenway, Kelson Benjamin.
1901, Jan. 19.	Law, George Thomas.
1901, Jan. 19.	Letchford, Frank.
1901, Jan. 26.	Ley, Edward John.
1901, Jan. 19.	Lloyd, Benjamin.
1901, Jan. 19.	Lloyd, Thomas Arthur.
1901, Mar. 9.	Logie, Thomas Samson.
1901, Mar. 23.	Lord, James.
1901, Jan. 19.	Lovegrove, James Victor.
1901, Mar. 9.	Mackie, Andrew.
1901, Mar. 9.	*L* McDougall, Miss Christina.
1901, Mar. 9.	Meiklejohn, James.
1901, Mar. 9.	Menzies, Charles.
1901, Mar. 23.	Miles, Bernard Rees.
1901, Mar. 23.	Miller, William.
1901, Jan. 19.	Murphy, Peter.
1901, Mar. 23.	Nott, Samuel Francis.
1901, Jan. 19.	Owen, David.
1901, Jan. 19.	Palazzi, Joseph Peter.
1901, Jan. 19.	Paris, Frederick John.
1901, Jan. 26.	Parker, Albert Ernest.
1901, Mar. 9.	Raitt, Thomas Ballantyne.
1901, Mar. 9.	Ramsay, Hugh.
1901, Mar. 23.	Ramsey, Charles Henry.
1901, Mar. 23.	Rawson, Samuel.
1901, Mar. 23.	Shimeld, Frank.
1901, Jan. 19.	Skelton, John James.
1901, Jan. 19.	Smith, John Dick.
1901, Mar. 23.	Spears, Victor William.
1901, Jan. 26.	Stuart, Robert John Alexander.
1901, Jan. 26.	Thomas, David.
1901, Jan. 26.	Tibbitts, Joseph William.
1901, Mar. 9.	Tuach, John.
1901, Jan. 19.	Tuck, Frederick Grant.
1901, Mar. 23.	*L* Vaughan, Miss Alice M.
1901, Jan. 19.	Wadsworth, Alfred Ernest.
1901, Mar. 23.	Wells, William Highley
1901, Mar. 23.	Whitwell, Edward.
1901, Jan. 19.	Willis, Henry Graham.
1901, Mar. 23.	Withers, William.
1901, Mar. 23.	Wright, Albert.
1901, Mar. 9.	Wright, George.
1901, Jan. 19.	Wright, John Joseph.
1901, Mar. 23.	Yeatman, Walter.

Inspector of Meat and Other Foods.

1901, Mar. 30.	Craven, Walter A.

Examination Questions.

Practical Sanitary Science.—Sydney, N.S.W., Jan. 12th & 19th, 1901.

1. What are the impurities likely to be met with in waters collected from the following sources:—

River water.
Upland surface water.
Stored rain water.
Shallow well water.
Deep well water?

2. A dwelling house has to be erected on a site which has a damp subsoil; what precautions should be taken to avoid bad effects from the latter?

3. Name the diseases of animals met with in Australia which may be communicated to man. Mention the principal provisions of the Diseased Animals and Meat Act.

4. What is meant by "relative humidity of the atmosphere"? Describe two ways of ascertaining the degree of relative humidity.

5. What are the conditions of housing which conduce to occurrence of tubercular disease in the inmates?

6. Define "saturated" and "superheated" steam; what are their relative values for disinfection? Explain your answer fully.

7. What is meant by "combined" and "separate" systems of sewerage? Give reasons for preferring either of them to the other.

8. Describe how the following should discharge in a sewered district; illustrate your answer with sketches:—

Rainwater down-pipe.
Bath waste.
Watercloset.
Slop-sink waste.
Scullery-sink waste.

The Candidates were examined vivâ voce *on the* 19*th.*

Practical Sanitary Science.—Bristol, January 25th & 26th, 1901.

1. What are the results and comparative advantages of the filtration of water for drinking purposes through (*a*) clean sand; (*b*) animal charcoal; (*c*) spongy iron.

2. Describe the conditions of atmosphere as to wind, rainfall, and humidity usually found to be due to situations on hill, valley, or plain; explaining how the influence of site affects or produces such conditions.

3. What is a "degree of hardness" in water? How can very hard water be softened for the supply of a town?

4. How is the size of a main determined to supply water to a town? Give an example.

5. Give sketches showing how the lead is laid in a parapet gutter. What points require particular attention to ensure sound work?

6. Illustrate by sketches the best position for windows in relation to floor and ceiling in (*a*) hospitals; (*b*) schoolrooms; (*c*) sitting or living rooms. What relation does glass surface for lighting usually bear to floor space?

7. Describe fully and illustrate by sketches two kinds of grates for open fires, and two kinds of close stoves. State which you would use for (*a*) schoolrooms; (*b*) hospital wards; (*c*) banks or large offices.

8. What are the disadvantages of admitting rainfall into sewage drains? From what surfaces is it advisable to admit the rainfall into the sewers, and why? Compare the respective volumes of domestic sewage and surface water.

The Candidates were examined vivâ voce *on the 26th.*

Practical Sanitary Science.—Edinburgh, March 8th and 9th, 1901.

1. What is meant by "capacity for heat"? What is the "specific heat" of a body? Will iron or water require the greater quantity of heat to raise the temperature of an equal weight an equal number of degrees?

2. Explain how the sanitary condition of a house may be affected by ground air, and how ground air is affected by ground water, and how both may become polluted. Assume a case where such pollution exists—what measures would you take to remove any injurious influence in a house?

3. Sketch and describe the construction and action of an efficient filter for dealing with river water intended for the supply of a town. State the area of filter that is necessary for a given volume.

4. Give a schedule of the various kinds of timber used in building, the purpose for which each kind is best suited, and the defects, if any, that each kind is liable to.

5. What are the advantages and disadvantages of cement concrete as a material for the walls and floors of dwelling-houses? Specify the composition and mode of using that you would recommend.

6. What are the principal sources of pollution of air, and what amount of CO_2 should be accepted as a standard of maximum impurity? With a room of 3,000 cubic feet capacity continuously inhabited by five adults, at what rate per minute should fresh air enter to keep the atmosphere sufficiently pure?

7. Describe the main features of the following systems of heating a building by hot water:—(*a*) by the high-pressure system; (*b*) by the low-pressure system. Also state advantages and disadvantages of each, and what should be ratio of heating surface to cubical contents.

8. A sewer has to be laid through treacherous water-logged ground. Describe what precautions should be taken to ensure soundness of work. Give sketches and detailed information as to how you would execute the work.

The Candidates were examined vivâ voce *on the 9th.*

Practical Sanitary Science.—Birmingham, March 22nd and 23rd, 1901.

1. Explain what is meant by "watershed," "gathering ground," "dip," "fault," "percolation," and "spring."

2. Give a list of the various materials used for internal wall plastering, and the uses for which each is best suited.

3. Describe a process for softening water on a large scale.

4. State the principal ingredients for lime concrete and Portland cement concrete. In what proportion should these ingredients be used for (*a*) foundations, (*b*) covering sites, (*c*) fireproof floors? Give reasons for the variations.

5. How would you ventilate a school building in which the available cubic space was less than 100 cubic feet per head?

6. What are the advantages of heating large buildings by stoves? Explain also the disadvantages: show how these may be minimised or prevented.

7. Sketch the following closets:—(*a*) wash-out; (*b*) wash-down; (*c*) long hopper. State the advantages or disadvantages of each, with your view as to the amount of water that it is desirable to use for flushing.

8. Explain what proportion of the rainfall is estimated in practice to enter a sewerage system in a small residential town. State the varying rates of flow of sewage at the outfall at different times of the day and seasons of the year.

The Candidates were examined vivâ voce *on the 23rd.*

Inspectors of Nuisances.—Sydney, N.S.W., Jan. 12th & 19th, 1901.

1. How would you proceed in taking samples of (*a*) water, and (*b*) butter, for analysis?

2. How would you disinfect a bedroom of 1500 feet cubic capacity in a brick-built house, and its contents, after scarlet fever?

3. State the best position for a damp-course in walls, and name the various materials of which it might be constructed. Give a careful description of the method of construction you prefer.

4. What defects are most usually met with in house-drainage? What methods are in use for ascertaining whether defects exist?

5. Enumerate the trades proclaimed to be Noxious Trades under the Noxious Trades and Cattle-slaughtering Act. Give briefly the principal points of the by-laws regulating the trade of pig-keeper.

6. What are the powers conferred, and duties imposed, on inspectors appointed under the Diseased Animals and Meat Act in respect (*a*) of live animals, (*b*) of meat?

7. What are the cubic contents of a rectangular room which has a ceiling 12 feet above the floor, of which the long sides measure 30 feet, the short sides 20 feet, and which has in one of the short sides a semi-circular bay with a radius of 6 feet, going up to the full height of the room?

8. Mention the strength and way in which each of the following disinfectants should be used:—

Carbolic acid.
Perchloride of mercury.
Chloride of lime.
Sulphurous acid.
Formalin.

The Candidates were examined vivâ voce *on the* 19*th.*

Inspector of Nuisances.—Bristol, January 25th and 26th, 1901.

1. What power of entry has an Inspector of Nuisances into private premises, for the purpose of examining as to the existence of a nuisance thereon, (*a*) in the case of a smoke nuisance, (*b*) in the case of other nuisance connected with any business?

2. How often should refuse be collected from a dwelling? Mention the different methods of storing the refuse before removal, and state which you prefer.

3. Describe the precautions you would adopt in dividing a sample of butter purchased for the purpose of analysis, and in sending it by post to the Public Analyst.

4. In what ways may articles of food preserved in tins become injurious to health? How could you tell, without opening, if the contents of a tin had undergone putrefaction?

5. Describe how you would disinfect a vessel on which cases of of plague had been discovered.

6. What are the best materials for cisterns to store water for dietetic purposes? Describe the advantages and disadvantages of those in general use.

7. What do you consider the minimum floor space that should be allowed per head in a sleeping-room? How much floor space per head would be provided in a room 15ft. square by 20ft. high, allowing 400 cubic ft. per head? Criticise such an arrangement.

8. Describe in detail how you would test the drains of a dwelling-house by (*a*) water; (*b*) smoke; (*c*) volatile substances. In what circumstances would you apply each of these tests?

The Candidates were examined vivâ voce *on the* 26*th.*

Inspector of Nuisances.—Edinburgh, March 8th and 9th, 1901.

1. What are the powers and duties, under the Public Health Acts and the Model Byelaws issued by the Local Government Board, of an Urban Sanitary Authority and their Inspector of Nuisances with regard to the removal of accumulations of offensive matter on private premises?

2. Describe the details of the process you would adopt in procuring a sample of milk at a railway depot, so as to ensure the conviction of the consignor of the milk in the event of its being adulterated.

3. What are the advantages of steam over hot air as a means of disinfection: are both equally applicable in all circumstances? Describe the different types of disinfecting apparatus.

4. Describe the appearances visible to the naked eye which you would expect to find in the offal and carcase of an animal which had died from advanced tuberculosis. Indicate the organs and parts which are generally most affected.

5. What is the number of cubic feet of space per head that is required in a dormitory of a common lodging-house? What should be the length of such a dormitory for twenty-five adults when the height is 10 feet and the width 16 feet?

6. The water supply to a detached house has to be obtained by sinking a well in its immediate neighbourhood in porous ground, the subsoil water being reached at a depth of about 20 feet. Describe how such a well should be constructed to ensure the supply being free from pollution.

7. A proposal for the complete re-drainage of a mansion of large extent, built many years age, comes before you. The mansion stands on a hillside; strata all clay, with a brook near by having a rapid fall. Describe how you would advise dealing with the water from roofs, yards, and other surfaces that have to be drained; and how the sewage proper, *i.e.*, the discharge from w.c.'s, baths, sinks, stables, etc., should be treated, so as to avoid nuisance or the pollution of the stream.

8. State the proceedings necessary for testing the drains of a house, and explain the different methods of carrying out the tests in practice.

The Candidates were examined vivâ voce *on the 9th.*

Inspector of Nuisances.—Birmingham, March 22nd and 23rd, 1901.

1. What are Statutory Notices, and by whose authority are they served? Describe the essential parts of the ordinary form of such notice required under the Public Health Act, 1875.

2. A case of small-pox is notified as having occurred in a common lodging-house. What enquiries would you make, and what measures would you take as regards disinfection?

3. What are the sanitary requirements of a cowshed, in order that it may comply with the model Regulations of the Local Government Board dealing with Dairies, Cowsheds, and Milkshops?

4. A river forming the source of a public water supply passes near a number of hamlets. Describe the exact methods by which you would ascertain whether any pollution was reaching the river (*a*) during dry weather; (*b*) during storms.

5. What nuisances are liable to arise from the use of open hopper heads for receiving sink and bath waste water? What steps can be taken to obviate nuisance?

6. What is understood by "dry conservancy systems"? Give a detailed description of the apparatus used.

7. Give a description of at least four different kinds of stoneware pipe joints, with sketches, and state the advantages or disadvantages of each.

8. How should soil pipes, sink pipes, and overflow pipes of a dwelling be dealt with so as to prevent any danger to the inmates? What do you consider a proper fall for a six-inch house drain, and how should it be connected with the public sewer?

The Candidates were examined vivâ voce *on the 23rd.*

Inspectors of Meat and other Food.—Birmingham, March 29th and 30th, 1901.

1. In what circumstances can any sample of Food, under the Sale of Food and Drugs Act, 1899, be taken in course of delivery? What is the definition of "Food"?

2. What statutory powers exist to prohibit the sale of a particular supply of milk, and under what circumstances can they be exercised?

3. Describe the appearances in the flesh of a pig suffering from measles.

4. Name the diseases of the sheep which (*a*) in every, or (*b*) in any, stage render the flesh unfit for human food. Indicate the parts of the body of the quadruped principally or more frequently affected in each case, and describe the appearances by which the several diseases may be recognised.

5. What action would you take with regard to the carcase of an animal exposed for sale that was suffering from tuberclosis in a localised form? What part of the carcase would you cut to ascertain if the disease was generalised?

6. How could you distinguish the kidney of a calf from that of a horse, sheep, or pig?

7. What special dangers are there in respect of oysters and shell fish generally, and also in respect of canned foods?

8. Describe in detail any model cowshed that you have actually seen, and contrast its condition with one which you have also seen but which, in your opinion, is unfit for such a purpose.

9. What principles should be adopted in the regulation of markets with a view to their hygienic control?

10. Give a short résumé of the various methods which have been proposed for the humane slaughtering of animals destined for the food of man; stating your opinion as to the advantages and disadvantages of each.

The Candidates were examined vivâ voce *on the 30th.*

FORTHCOMING MEETINGS.

Calendar, April to July, 1901.

As far as at present arranged.

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m., except August and September.*

Special Purposes Committee	Third Monday at 5 p.m.
Finance Committee	Second Wednesday at 4.30 p.m.*
Exhibition Committee	First Monday at 5 p.m.
Congress and Editing Committee	Second Monday at 5 p.m.
Museum and Library Committee	Fourth Monday at 5 p.m. (except May).
Examination Committee	Fourth Thursday in April, 5 p.m.
Parliamentary Committee	As occasion requires.
Rivers Pollution Committee	
Meat Inspectors Exam. Committee	

* *The Council Meeting and Finance Committee in April will be on the third Wednesday.*

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 2 p.m. on Saturday.

APRIL.

1 M. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by W. Hunting, F.R.C.V.S.

3 W. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.

5 F. **Good Friday.** Museum closed.

8 M. Bank Holiday. Museum closed.

13 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Nuisances and Methods of Inspection, by J. Spottiswoode Cameron, M.D.

15 M. Inspection and Demonstration at the Metropolitan Cattle Market, York Road, N., at 3 p.m., conducted by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.

15 M. Lecture to Sanitary Officers at 7 p.m. The Appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other food, and the conditions rendering them, or preparation of them, fit or unfit for human consumption, Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector, Local Government Board.

17 W. **Sessional Meeting**, at 8 p.m. Discussion on Sewage Purification and Standards of Purity, opened by H. R. Kenwood, M.B., D.P.H., and W. Butler, M.B.

18 Th. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.

19 F. Lecture to Sanitary Officers at 7 p.m. The Hygiene of Byres, Lairs, Cow Sheds, and Slaughter Houses, and all places where animals destined for the supply of food are kept, and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for sale, and transported, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector, Local Government Board.

20 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Infectious Diseases and Disinfection; Ventilation, by W. Arnold Evans, M.D.

20 S. Inspection and Demonstration at Knackers' Yard, at 3 p.m.

22 M. Lecture to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the Inspection and Sale of Meat and other articles of food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D., D.P.H.

26 F. }
27 S. } Examinations in Practical Sanitary Science and for Inspectors of Nuisances, London.

27 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Sanitary Law: *A*.—The Public Health Act, 1875, and the Model Bye-Laws, by Trevor Edwards.

MAY.

3 F. }
4 S. } Examination for Inspectors of Meat and other Foods, London.

4 S. Easter Term of Course of Training in Practical Hygiene for School Teachers commences. Seven Lectures on Construction and Practical Sanitation of Schools, to be given on Saturday mornings, at 10 a.m., in the Parkes Museum, by H. R. Kenwood, M.B., D.P.H., and J. Osborne Smith, F.R.I.B.A.

4 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Sanitary Law: *B*.—Public Health Acts subsequent to 1875, by Joseph Priestley, M.D., D.P.H.

11 S. Lecture to School Teachers, Parkes Museum, 10 a.m. See May 4th.

11 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Water Supplies; Domestic Plumbing, by J. Mitchell Wilson, M.D.

18 S. Lecture to School Teachers, Parkes Museum, 10 a.m. See May 4th.

18 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Dairies, Cowsheds, and Milkshops; Slaughter Houses and Markets, by E. G. Annis, M.R.C.S.

25 S. Lecture to School Teachers, Parkes Museum, 10 a.m. See May 4th.

27 M. WHIT MONDAY. Museum closed.

JUNE.

1 S. Lecture to School Teachers, Parkes Museum, 10 a.m. See May 4th.

1 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Unsound Food; Diseased Meat; Sale of Food and Drugs Acts, by R. Sydney Marsden, M.B.

7 F. }
8 S. } Examinations in Practical Sanitary Science and for Inspectors of Nuisances, Dublin.

8 S. Lecture to School Teachers, Parkes Museum, 10 a.m. See May 4th.

8 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Scavenging and Refuse Disposal; Smoke Abatement, by W. Lovell Hunter, M.D.

15 S. Lecture to School Teachers, Parkes Museum, 10 a.m. See May 4th.

15 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Drainage; Inspection of Builders' Work and Domestic Sanitary Appliances, by W. Spinks, ASSOC.M.INST.C.E.

22 S. Lecture to Sanitary Officers, at Yorkshire College, Leeds, at 3 p.m. Sanitary Inspectors' Work (General and Recapitulatory), by J. R. Kaye, M.B.

28 F. } 29 S. } Examination in Practical Sanitary Science, Practical Hygiene for School Teachers, and for Inspectors of Nuisances, Bradford.

JULY.

12 F. } 13 S. } Examinations in Practical Sanitary Science and for Inspectors of Nuisances, Liverpool.

19 F. } 20 S. } Examination for Inspectors of Meat and other Foods, Liverpool.

26 F. } 27 S. } Examination in Practical Sanitary Science and for Inspectors of Nuisances, Cardiff.

HON. FELLOWS, FELLOWS, MEMBERS, AND ASSOCIATES ELECTED.

JANUARY TO MARCH, 1901.

(A complete list can be had on application.)

HONORARY FELLOWS.

Reg. No.	Date of Election	
50	1901. Mar.	CHAUVEAU, Prof. A., *Avenue Jules Janin 10, Passy, France.*
49	1901. Jan.	ERISMANN, Professeur Frédéric, *Zurich.*
51	1901. Mar.	YERSIN, Prof.

FELLOWS.

Reg. No.	Date of Election	
451	1901. Jan.	ALDWINCKLE, Thomas William, F.R.I.B.A., 1, *Victoria Street, London, S.W.*
467	1901. Jan.	BLAIR, William Nisbet, M.INST.C.E., *Vestry Hall, St. Pancras, N.W.*
1262	1901. Jan.	CAMERON, J. Spottiswoode, M.D., B.SC., C.M., M.R.C.S., *Town Hall, Leeds.*
545	1901. Jan.	COWAN, Peter Chalmers, B.SC., M.INST.C.E., 33, *Ailesbury Road, Dublin.*

Reg. No.	Date of Election.	
1319	1901. Jan.	Davis, Joseph, M.INST.C.E., *Sydney, New South Wales.*
686	1901. Jan.	Grantham, Richard Fuge, M.INST.C.E., 23, *Northumberland Avenue, W.C.*
1357	1901. Jan.	Preece, Sir William Henry, K.C.B., F.R.S., *Gothic Lodge, Wimbledon.*
807	1901. Jan.	Silk, Albert Edward, M.INST.C.E., *Writers' Buildings, Calcutta.*
1139	1901. Jan.	Thwaites, William, M.A., M.INST.C.E., *Melbourne, Victoria.*

MEMBERS.

Passed Examination in Practical Sanitary Science.

‡ Passed Examination for Inspector of Nuisances.

1474	1901. Feb.	*‡Abbott, Alfred E., *The Square, Wolverton.*
1469	1901. Jan.	Angel, Robert John, ASSOC.M.INST.C.E., A.R.I.B.A., *Town Hall, Spa Road, S.E.*
1470	1901. Jan.	Bissell, William Sydney, *Borough Engineer's Office, Wolverhampton.*
1475	1901. Feb.	Blake, Edwin Holmes, F.S.I., 13, *Grosvenor Mansions, Victoria Street, S.W.*
1479	1901. Mar.	*Bösher, Victor Evans, A.R.I.B.A., 10, *Undercliff, St. Leonards-on-Sea.*
1478	1901. Mar.	*Bracher, Walter S., 65, *Redcliff Street, Bristol.*
1477	1901. Mar.	*Bromly, Alan, *Borough Engineer's Office, Croydon.*
1472	1901. Jan.	Ellis, Raymond J., *Assistant Town Engineer, Municipal Offices, Woodstock. S.A.*
1476	1901. Feb.	Kennedy, Denis, L.R.C.S., 3, *O'Connell Street, Waterford.*
1473	1901. Jan.	‡MacDonald, Kenneth Grant, 13, *Charles Street, St. James's, S.W.*
1480	1901. Mar.	Mackenzie, Kenneth Walter Ingleby, L.R.C.P., M.R.C.S., *Lansdowne House, John Street, Ryde.*
1481	1901. Mar.	Manker, V. L., L.R.C.S., L.R.C.P., D.P.H., 10, *New Lines Street, Bombay.*
1471	1901. Jan.	Mattinson, Henry, *Borough Engineer's Office, Wolverhampton.*
1482	1901. Mar.	Rogers, Samuel George, *Surveyor, Town Hall, Chard.*
1483	1901. Mar.	Smith, Henry, M.R.C.V.S., *Winton Lodge, Worthing.*
1484	1901. Mar.	Taylor, John, *Town Hall, Bradford.*
1485	1901. Mar.	Thomas, David Jones, M.R.C.S., L.R.C.P., D.P.H., 23, *Bromley Street, Commercial Road, E.*

ASSOCIATES.

† Passed Examination for Sanitary Inspector.

‡ Passed Examination for Inspector of Nuisances.

Reg. No.	Date of Election.	
2229	1901. Feb.	‡Airey, Henry, 3, *Osborne Terrace, Kendal.*
2232	1901. Feb.	‡Annis, Cecil W., 29, *North Street, Chichester.*
2201	1901. Jan.	‡Applegate, Charles James, *The Ash, Chester Street, Rugby.*
2252	1901. Mar.	‡Arnold, Herbert, 19, *High Street, Newport.*
2202	1901. Jan.	‡Ayre, Thomas, *Waskerley, viâ Darlington.*
2253	1901. Mar.	‡Baker, Samuel Newsom, *Sibford Gower, Oxford.*
2254	1901. Mar.	‡Baxter, Henry Thomas, *Llanberis, Portland Road, Southall.*
2260	1901. Mar.	‡Belford, James, 7, *Crawford Place, Meanwood Road, Leeds.*
2206	1901. Jan.	‡Bevan, Miss Georgina Dacres, *4, St. Mark's Buildings, Balderton Street, W.*
2236	1901. Feb.	‡Body, George Edward, 18, *Vernon Road, Turnpike Lane, Hornsey.*
2230	1901. Feb.	‡Bottomley, Gibson, 49, *East Street, Lindley, Huddersfield.*
2231	1931. Feb.	‡Brittain, Frank, 73, *Wellington Street, Luton.*
2203	1901. Jan.	‡Brow, J., 82, *Grasslott, Maryport, Cumberland.*
2204	1901. Jan.	‡Cape, John George, *Industrial School, Marygate, York.*
2210	1901. Jan.	‡Carter, George E., *Cartmel, Lancs.*
2261	1901. Mar.	‡Chant, Alfred, "*Rosaleen,*" *Beech Road, Weston-super-Mare.*
2205	1901. Jan.	‡Cordiner, William, *West Sandend, Port Erroll, N.B.*
2207	1901. Jan.	‡Cox, Miss Irene Winifred, 9, *St. Augustine's Road, Edgbaston, Birmingham.*
2233	1901. Feb.	‡Diggle, Richard, 4, *Lemonius Street, Accrington.*
2262	1901. Mar.	‡Dodd, William, 118, *Brook Street, Birkenhead.*
2237	1901. Feb.	‡Elliott, Stephen James, 32, *Ashley Road, Southport.*
2263	1901. Mar.	‡Gander, Charles James, *Shipton-on-Stour.*
2208	1901. Jan.	†‡Gathercole, W. H. J., *Public Health Department, Guildhall, E.C.*
2234	1901. Feb.	‡Gee, Frederick George, 100, *Trinity Street, Unthank Road, Norwich.*
2235	1901. Feb.	‡Gough, Miss Alice, 42, *Walcot Square, Kennington, S.E.*
2242	1901. Feb.	‡Gourlay, Archibald, 23, *Henry St., Newcastle-upon-Tyne.*
2238	1901. Feb.	‡Harrison, Joseph, 5, *Bibby's Lane, Bootle, Liverpool.*
2264	1901. Mar.	‡Haslam, Richard, *Plaistow Green, Crick, Derby.*
2265	1901. Mar.	‡Head, Joseph W., 5, *Bloomsbury Street, Cheltenham.*

Reg. No.	Date of Election	
2211	1901. Jan.	‡Head, Thomas George, *Stourwood House, Southborne, Hants.*
2239	1901. Feb.	‡Hill, Rowland, *Erlesdene,* 47, *Derby Road, Southport.*
2243	1901. Feb.	‡Hindley, Thomas Henry, 62, *Wigan Road, Hindley.*
2244	1901. Feb.	‡Howie, William John, 37, *Blackheath Road, Greenwich, S.E.*
2209	1901. Jan.	‡Hunter, James, 1, *Close Street, Sunderland.*
2212	1901. Jan.	‡Hunton, William, *Kilnwick, Percy Pocklington.*
2214	1901. Jan.	‡Jackman, Reginald Erasmus, 13, *Brook Green, Well Street, Exeter.*
2213	1901. Jan.	‡Joseph, Miss Hilda, 26, *Harborne Road, Birmingham.*
2215	1901. Jan.	‡Kemp, Arthur Godfrey, 9, *Faversham Road, Catford, S.E.*
2266	1901. Mar.	‡Knewstubb, Frederick William, *Garth Heads Road, Appleby.*
2241	1901. Feb.	‡Law, Frank Nicholson, 8, *Montgomery Street, Hollinwood.*
2255	1901. Mar.	‡Laws, George, 41, *Peel Street, Eccles.*
2217	1901. Jan.	‡Lemmoin-Cannon, Henry, 3, *Holland Road, Brixton.*
2216	1901. Jan.	‡Lewins, Joseph, 205, *Alice Street, South Shields.*
2218	1901. Jan.	‡Lyndon, Mrs. Charlotte, *Grayshott, Hants.*
2267	1901. Mar.	‡Makin, John, 45, *Fawdry Street, Wolverhampton.*
2240	1901. Feb.	‡Manning, Edward, *Borough Engineer's Office, Nelson.*
2268	1901. Mar.	‡Mansfield, William Thomas, *Surveyor and Inspector, U.D.C., Kingsbury.*
2228	1901. Jan.	‡Marden, George, 11, *Maybury Street, Tooting, S.W.*
2269	1901. Mar.	‡Milburn, Joseph, *Southview, Haltwistle, Northumberland.*
2227	1901. Jan.	‡Money, Francis George, 16, *Pine Road, N.W.*
2245	1901. Feb.	‡Nelson, George Trim, 28, *Thomas Street, Woolwich, S.E.*
2219	1901. Jan.	‡Newland, Henry. 2, *Victoria Villas, Simeon Street, Ryde.*
2256	1901. Mar.	‡Parker, Albert Ernest, *York House, Severn Road, Weston-super-Mare.*
2220	1901. Jan.	‡Parry, Edward, 102a, *High Street, Aylesbury.*
2246	1901. Feb.	‡Parry, Owen William, 53, *Milton Road, Birkenhead.*
2247	1901. Feb.	‡Plows, William Henry, 20, *Bessborough Street, S.W.*
2221	1901. Jan.	‡Pritchard, Edmund, *Prospect Street, Alfreton.*
2222	1901. Jan.	‡Pryer, Robert William Ambrose, 1, *West Street Dover.*
2223	1901. Jan.	‡Shanks. Richard Dalkin, *Lumley Thicks, Fencehouses.*

Reg. No.	Date of Election.	
2225	1901. Jan.	‡Simpson, Henry Charles, *Ladycross, Lingfield.*
2246	1901. Feb.	‡Smith, Frank Hall, 1, *Vicars Hill, Ladywell, S.E.*
2249	1901. Feb.	‡Smith, Tom, 32, *Homelands, Stony Stratford.*
2257	1901. Mar.	‡Steel, Sydney Herbert, 150, *Ilbert Street, Queen's Park, Paddington.*
2270	1901. Mar.	‡Stone, Henry W., 50, *Somerset Road, Walthamstow.*
2271	1901. Mar.	‡Stuart, Robert John Alexander, *Sunny Lea, Swallowbeck, near Lincoln.*
2250	1902. Feb.	‡Thompson, Edmund, 49, *Saltaire Road, Shipley.*
2272	1901. Mar.	‡Tibbitts, Joseph William, *Somerset House, Southgate Street, Gloucester.*
2251	1901. Feb.	‡Tillotson, Frederick West, *Kildwick, Keighley.*
2259	1901. Mar.	‡Tolson, R., *Holmfirth, Yorks.*
2226	1901. Jan.	‡Tomlinson, John, 9, *Clarence Street, Carlton Road, Nottingham.*
2258	1901. Mar.	‡Turner, John, *Hedley Hill, Cornsey.*
2273	1901. Mar.	‡Walker, A. Horace, 60, *Thorne Road, S.W.*
2274	1901. Mar.	‡Williams, William, 141, *Coburg Road, Old Kent Road, S.E.*
2224	1901. Jan.	‡Young, John Bishop, F.R.C.V.S., *Braintree, Essex.*

EXHIBITS ADDED TO THE MUSEUM,

JANUARY TO MARCH, 1901.

Lightning Conductor, as fixed at St. Paul's Cathedral, showing new Box-joint and "Aigrettes." *Killingworth & Hedges.*

Smoke Flues (Model), showing two flues connected to same chimney, illustrating practically the defective arrangement. *Killingworth & Hedges.*

Lead Pedestal Closet, in Sections. *J. Bolding & Sons.*

Clencher Closet, Amber and White; Pedestal. *J. Duckett & Sons.*

Septic Tank. Eight Photographs of Installations of this system, and Automatic Apparatus for alternate filling of Effluent Filters. *Cameron, Commin & Martin.*

Old Lead Trap, very much corroded and perforated. *T. R. King.*

Stable and other Bricks, to replace older specimens. *Candy & Co.*

Diagrams, Physiological and Anatomical, of the Horse and the Cow. *W. Hunting.*

Diagrams of various Sewage Disposal Systems and Apparatus, including Dibdin's, Scott-Moncrieff's, Stoddart's, Cameron's, and Candy-Caink. *C. Childs, M.D.*

Diagram illustrating various methods of Bandaging, copied from Dr. Osborn's "First Aid."

Diagrams (Set), Physiological, for Elementary Teaching. *Arnold & Co.*

Lantern Slides. Set of Five on Sewage Disposal; Set of Thirteen on Plague in Sydney. *Purchased.*

CONTRIBUTIONS AND ADDITIONS TO LIBRARY

JANUARY TO MARCH, 1901.

⁂ *For publications of Societies and Institutions, &c., see under "Academies."*

ACADEMIES (AUSTRALIAN.)

Melbourne. *Australian Health Society.* Twenty-five years' Record of the Work and Progress of the Society. 32 pp., 8vo. Melbourne, 1900. *The Society.*

ACADEMIES (BRITISH).

London. *British Association for the Advancement of Science.* Report of the Seventieth meeting, held at Bradford in September, 1900. 1086 pp., 8vo. London, 1900. *The Association.*

——— *Museums Association.* Report of Proceedings, with the Papers read at the Eleventh Annual Meeting, held at Canterbury July 9th to 12th, 1900. 157 pp., 8vo. London, 1900. *The Association.*

——— *Royal Institution.* Proceedings, Vol. XVI., Part I. 232 pp., 8vo. London, 1900. *The Institution.*

Newcastle-upon-Tyne. *North of England Institute of Mining and Mechanical Engineers.* Transactions: Vol. XLVII., Part VII., Report of Committee on Mechanical Ventilation; Part VIII.; Vol. XLIX., Parts III. & IV.; Vol. L., Part I. Annual Report, 1899–1900. 8vo. Newcastle, 1900. *The Institute.*

Bern. Annuaire Statistique de la Suisse, 1900. 313 pp., 8vo. Bern, 1900.

——— Die Ergebnisse der Schweizischen Kriminalstatistik während der Jahre 1892–96. 56 pp.,4to. Bern, 1900. *Bureau de Statistique.*

Burdett-Coutts, *W., M.P.* The Sick and Wounded in South Africa: what I saw and said of them, and of the Army Medical System. 260 pp., 8vo. London, 1900. *The Author.*

Chapman, *Matthew.* The Student's Guide to Success in Sanitary Inspectors' Examinations. 73 pp., 8vo. London, 1901. *Sanitary Publishing Co.* *The Publishers.*

Cochrane, *Miss C.* Papers on Rural Housing. 16 pp., 8vo. St. Neots, 1901. *The Author.*

Leeds. Report on Sewage Disposal, July, 1900. 110 pp., 8vo. Leeds, 1900. *T. Hewson, M.Inst.C.E.*

Leicester. Report of the Tramways Sub-Committee on the systems of traction in various towns, and on electric tramways for Leicester, Nov., 1900. 153 pp., 8vo. Leicester, 1900. *E. G. Mawbey, M.Inst.C.E.*

Leipzig. Einunddreissigster Jahresbericht des Landes-Medicinal-Collegiums über das Medicinalwesen in Königreiche Sachsen auf das Jahr 1899. 383 pp., 4to. Leipzig, 1900. *Dr. Günther.*

Local Government. Annual and Official Directory, 1901. Edited by S. Edgecumbe Rogers. 261 pp., 8vo. London, 1901. *The Editor.*

Local Government Board. Dr. W. W. E. Fletcher's Report upon the Sanitary circumstances of the Farnworth Registration Sub-District of the Bolton (Lancs.) Registration District, and upon the Sanitary Administration of the Farnworth and Kearsley Urban Districts. 15 pp., fcp. London, 1900. *W. H. Power, F.R.S.*

——— Dr. R. J. Reece's Report on the Sanitary circumstances of, and administration in, the Northam Urban District, Devonshire. 13 pp., fcp. London, 1900.

——— Dr. R. W. Johnstone's Report upon Epidemic Enteric Fever in Nuneaton and Chilvers Coson Urban District. 12 pp. fcp. London, 1900.

——— Report on recent epidemic arsenical poisoning attributed to beer, by Dr. G. S. Buchanan. 25 pp., fcp. London, 1901. *W. H. Power, F.R.S.*

London County Council. The Housing Question in London; being an Account of the Housing work done by the Metropolitan Board of Works and the London County Council between the year 1855 and 1900, with a Summary of the Acts of Parliament under which they have worked. 381 pp., 8vo. London, 1900. *Purchased.*

Maguire, *W. R.* Domestic Sanitary Drainage and Plumbing. Third edition, 506 pp., 8vo. London, 1901. *The Publishers (Kegan Paul, Trench, Trubner & Co.).*

Massachusetts State Board of Health. Thirty-first Annual Report. 812 pp., 8vo. Boston, 1900. *The Board.*

MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

Bourne (Rural), 1901 ..	*J. W. Burdwood, M.O.H.*
Chelmsford, 1901	*J. C. Thresh, M.D., D.Sc.*
Dundee (San. Insp.), 1900 ..	*T. Kinnear.*
Erdington, 1900	*Prof. A. Bostock Hill, M.D.*
Hartlepool, 1900	*J. Rawlings, M.O.H.*
Hartlepool (San. Insp.), 1900	*J. Charlton.*
Kidderminster, 1900 ..	*D. Corbett, M.O.H.*
Kingston-upon-Thames, 1900	*H. Beale Collins, M.O.H.*
London County Council, 1899	*Shirley F. Murphy, M.R.C.S.*
Maldon (Rural), 1900 ..	*J. C. Thresh, M.D., D.Sc.*
Reigate (San. Insp.), 1900 ..	*J. P. Humphery.*
St. Thomas (Rural), 1900 ..	*M. Farrant, L.R.C.P., M.R.C.S.*
Torquay, 1900	*P. Q. Karkeek, M.R.C.S., M.O.H.*
Whitechapel, 1900	*J. Loane, M.O.H.*
Wimbledon, 1900	*E. Pocklington, M.O.H.*

Metropolitan Asylums Board. Return cases of Scarlet Fever and Diphtheria: reports and papers relative to the Board's inquiries. 50 pp., 8vo. London, 1901. *The Board.*

Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars for the year 1898. 250 pp., 8vo. London, 1899.

New Hampshire State Board of Health. Sixteenth Report—for the two years ending Nov. 1st, 1900. 251 pp., 8vo. Manchester, New Hampshire, 1901. *The Board.*

Nottingham. The Meteorology of, for the year 1900, by A. Brown, M.Inst.C.E., and P. Boobbyer, M.B. Fcp. *The Authors.*

New Zealand. An Act to Consolidate and Amend the Laws relative to Municipal Corporations. 118 pp., 4to. An Act to Consolidate and Amend the Laws relative to Public Health. 56 pp., 4to. 1900. *Kenneth Cameron.*

Paris. Annales des Ponts et Chaussées. 1^{re} Partie: Mémoires et Documents relatifs à l'Art des Constructions et au Service ed l'Ingénieur. 3^e Trimestre. 424 pp., 8vo. Paris, 1900. *L'Inspecteur général Secrétaire de la Commission.*

——— Départment de la Seine. Service des Eaux et de l'Assainissement. Notes à l'Appui du Compte des dépenses de l'Exercice, 1899. 98 pp., 4to. Paris, 1900. *M. Bechmann.*

——— Diminution de la Fièvre Typhoïde à Paris. 3 pp., 4to. Extrait de la "Revue Municipale," Dec. 29th, 1900.

Parkes, *Louis, M.D., D.P.H.,* and **Kenwood,** *Henry, M.B., D.P.H., F.C.S.* Hygiene and Public Health. 732 pp., 8vo. London, 1901. Price 12s. *H. K. Lewis (publisher).*

Rome. Annali d'Igiene Sperimentale. Vol. IX., Faso IV.; Vol. X., Faso I. and II. 8vo. Roma, 1899 & 1900. *Prof. A. Celli.*

Staffordshire County Council. Arsenic in Beer. Report by County Medical Officer and County Analyst, Jan. 16th, 1901. 22 pp., 8vo. 1801. *George Reid, M.D., D.P.H.*

Symons' British Rainfall, On the distribution of Rain over the British Isles during the year 1899. 251 pp., 8vo. London, 1900. *H. Sowerby Wallis, F.R.Met.Soc.*

Triboulet, *Dr. H.,* and **Mathieu,** *Dr. Felix.* L'Alcool et l'Alcoolisme; notions générales Toxicologie et Physiologie—Pathologie Therapeutique—Prophylaxie. 251 pp., 8vo. Paris, 1900. *The Author.*

United States. Department of Agriculture. Duty of Water in the Gallatin Valley, by S. Fortier. 22 pp., 8vo. *The Department.*

Vacher, *Francis.* The Food Inspector's Handbook. 195 pp., 8vo. London, 1900. *The Author.*

Washington. Report of the Commissioner of Education for the year 1898–99. 2518 pp., 8vo. Washington, 1900. *The Commissioner.*

In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter.

Abbott, *A.C., M.D.* The Hygiene of Transmissible Diseases.

Cantlie, *James, M.A., M.B.Aberd., F.R.C.S.Eng.* Plague: How to recognise, prevent, and treat.

Crotch, *W. Walter.* The Cottage Homes of England: The Case against the Housing System in Rural Districts. Second edition.

Dibdin, *W. J.* Lime, Water, and Cement.

Dye, *Frederick.* A Practical Treatise upon Steam-heating.

Higginson, *Charles James, Barrister-at-Law.* Food and Drugs: A manual for Traders and others.

Hime, *T. Whiteside, B.A., M.D.* The Practical Guide to the Public Health Acts: A Vade Mecum for Officers of Health and Inspectors of Nuisances. Second and much enlarged edition.

Keywood, *H. G.* Sanitary Inspector's Field Book.

Kelyrack, *T. N., M.D.,* and **Kirkby,** *William, F.L.S.* Arsenical Poisoning in Beer Drinkers. Demy 8vo. 137 pp. and 16 illustrations.

Pyle, *W. L., A.M., M.D. (Edited by).* A Manual of Personal Hygiene.

Skrine, *E. H.,* and **Brownen,** *George, F.C.S.* The Tea we drink.

Valassopoulo, *Dr. A., Principal Medical Officer in the Greek Hospital, Alexandria.* La Peste d'Alexandrie en 1899 (The Plague in Alexandria during 1899). Illustrated.

Wallace, *J. Sim, M.D., B.Sc., L.D.S.* The Cause and Prevention of Decay in Teeth.

NOTES ON LEGISLATION AND LAW CASES.

These notes are copied by permission from The Law Reports published by The Incorporated Council of Law Reporting for England and Wales.

For full text of these see Law Reports, which can be referred to in the Library of the Institute.

FACTORY ACTS.—*Factory—Provision of Sanitary Conveniences—Failure of Sanitary Authority to take Proceedings on Notice from Factory Inspector—Power of Factory Inspector to make requirement—Jurisdiction of Justices to inquire into sufficiency of Sanitary Accommodation—Appeal to Quarter Sessions from Requirement of Sanitary Factory Inspector—Public Health Act, 1875 (38 & 39 Vict., c. 55); Public Health Acts Amendment Act, 1890 (53 & 54 Vict., c. 59). ss. 7, 22—Factory and Workshop Act, 1891 (54 & 55 Vict., c. 75), s. 2—Factory and Workshop Act, 1895 (58 & 59 Vict., c. 37), ss. 3, 35.*

By the Factory and Workshop Act, 1891, s. 2., sub-s. 2, where notice of an act, neglect, or default is given by a factory inspector under s. 4 of the Factory and Workshop Act, 1878, to a sanitary authority, and proceedings are not taken within a reasonable for punishing or remedying the act, neglect, or default, the inspector may take "the like proceedings for punishing or remedying the same as the sanitary authority might have taken." A factory inspector having given notice to a sanitary authority that there was a deficiency of sanitary accommodation in a certain factory within their district, and the sanitary authority not having taken within a reasonable time any proceedings for punishing or remedying the same, the inspector gave notice to the factory owner under this sub-section and under s. 22 of the Public Health Acts Amendment Act, 1890, which had been adopted in the district, requiring him to erect certain specified sanitary conveniences, and on his neglect to comply with the notice summoned him before justices in petty sessions:—

Held (by Lord Alverstone, C.J., Grantham, Bruce, and Darling, JJ., Phillimore, J., dissenting) that the justices had no jurisdiction to inquire into the suitability or sufficiency of the sanitary accommodation existing at the factory, or required by the notice of the inspector.

Semble, that an appeal lies to quarter sessions under s. 7 of the Public Health Acts Amendment Act, 1890, from the requirement of the factory inspector in such a case.—(TRACEY *v.* PRETTY & SONS). Div. Ct., 444.

FACTORY ACTS.—*Factory—Ventilation—Dust Generated and Inhaled by Workers to Injurious Extent—No Evidence of Actual Injury—Factory and Workshop Act, 1878 (41 & 42 Vict., c. 16), s. 36.*

By s. 36 of the Factory and Workshop Act, 1878, where, in any factory, a process is carried on by which dust is "generated and inhaled by the workers to an injurious extent," the factory inspector has power to require a fan or other means of ventilation to be provided. In proceedings under this Section:—

Held, that it was not necessary to prove that any worker had sustained actual injury from inhaling the dust, but that it was sufficient if it was proved that dust was generated and inhaled by the workers to an extent that must in the long run be injurious.—(HOARE *v.* RITCHIE & SON). Div. Ct., 434.

SEWERS AND DRAINS.—*Cleansing Sewers—Duty of Local Authority to Cleanse Sewers—Public Health Act, 1875 (38 & 39 Vict., c. 55), ss. 15, 19, 299.*

Sect. 299 of the Public Health Act, 1875, in providing for complaint to the Local Government Board where a local authority has made default in the maintenance of existing sewers, does not apply to s. 19 of the Act, which imposes on local authorities the duty to cleanse sewers vested in them, and consequently does not affect the right of action of a person who has sustained damage through the negligence of a local authority in not cleansing a sewer vested in them.—(BARON *v.* PORTSLADE URBAN COUNCIL.) C. A. [1900] 2 Q, B., 588.

Costs—Drainage—Capital or Income.

GENERAL NOTES.

British Congress on Tuberculosis.—The Preliminary Programme o this meeting, which opens on July 23rd, has now been issued. The work of the Congress is divided into four sections:—

Section I.—State and Municipal.
„ II.—Medical, including Climatology and Sanatoria.
„ III.—Pathology, including Bacteriology.
„ IV.—Veterinary (Tuberculosis in Animals).

The programme sets out the questions coming before the several sections, and the names of those who have promised to take part. Representatives have been appointed by the Institute to attend the meeting. A copy of the programme is sent to each of the Members and Associates of the Sanitary Institute with this number of the Journal.

Glucose in Jam.—At the West Sussex Quarter Sessions, at Horsham, April 12, George White, of Worthing, grocer, appealed against a decision of the Worthing Bench convicting him of unlawfully selling marmalade adulterated with 13 per cent. of starch glucose. Mr. Bousfield, K.C., Mr. Morton W. Smith, and Mr. W. W. Grantham were for the appellant; and Mr. Boxall and Mr. Horton-Smith for the respondents. The Worthing Bench held that marmalade was fruit preserved in either cane or beet sugar, and convicted the appellant under section 6 of the Food and Drugs Act. The respondents submitted that ordinary persons expected to have fruit prepared with the sugar known in common life, and not with a compound which was unknown to them. Glucose was unnecessary for the preservation of fruit. For the appellant expert evidence was called to show that glucose improved jam by preventing crystallization, mildew, and fermentation, produced a more fluid article, and brought it up to the taste demanded by the general public. The substance was a valuable food product, and easily digestible. The Court upheld the conviction, but agreed to state a case.—*Times.*

KENNY & Co. Printers, 25, Camden Road, London, N.W.

Volume XXII.—Part II.] **[July, 1901.**

SUPPLEMENT TO THE JOURNAL OF THE SANITARY INSTITUTE.

REVIEWS OF BOOKS.

THE IMPERIAL HEALTH MANUAL.*

This is a sort of primer of hygiene, in size an 8vo of 294 pages, with numerous illustrations. The contents are divided into four sections:—

1. Structure of the human body; function and uses of its organs.
2. The necessaries of life for the individual man.
3. Man in his social relations.
4. Dangers to health from external influences.

In other words the rudiments of anatomy, physiology, the chemistry of the air, of foods and drinks, and questions relating to engineering, and the prevention of diseases, are all subjects touched upon.

To compress so many branches of knowledge into so small a bulk satisfactorily, would be an impossible task; to even make a selection of the more important principles of these matters is difficult, but some measure of success has been attained, and the manual is a pleasantly and clearly written exposition of the chief basis of hygiene. It seems to the reviewer a pity that the editor of this work has not converted the various numerical values of money, or of measures and weights, into English equivalents. It is to be presumed that the book is meant for that large section of the public who are unfamiliar with kilogrammes, metres and marks, and it would have been a simple matter to have translated such expressions. The information is not always correct, and some of the directions are, to say the least, peculiar, *e.g.*, the statement, page 91, that "*cattle murrain*" corresponds to consumption in man is entirely opposed to the pathology of cattle plague.

The directions given on page 123, to boil eating utensils for some time if they have been used by the infectious sick, is hardly practicable, save in respect to small articles such as spoons and basins.

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* Being the authorised English Edition of the Official Health Manual issued by the Imperial Health Department of Germany, edited by Anthony Roche, M.R.C.P.I., Dublin, 1896. 2s. 6d.

In certain instances the rendering of the German does not convey the exact meaning of the original, for example, in the appendix, page 291, in the summary as to the laws of health in force in Germany, it is stated: "Eating, drinking, and cooking utensils, *cannot* be manufactured of lead, or of any alloy containing more than ten per cent. of lead; they *cannot* be coated internally with any metallic alloy containing more than one per cent. of lead" should obviously read instead of "cannot": "must not." These and similar defects can easily be remedied in any future edition.

The work considered as an educational work will be found useful to put in the hands of the public generally, and school children in particular.

A. W. B.

THE JOURNAL OF HYGIENE.

In a review of the contents of the *Journal of Hygiene*, which appeared in the Supplement to the "Journal of The Sanitary Institute" for April, 1901, it was noted that in an essay on the structure and biology of the *Anopheles*, the male insect had been selected for illustration, although it was the female which bites. The author of the essay wishes us to explain that the female imago is to be treated exhaustively in a continuation of the Article, and will require a number of figures which will appear in due course.

EARLY CHILDHOOD.*

"Early Childhood," a small 8vo volume by Mrs. McMillan, is a happy little contribution to the growing thought of the day that Hygiene will not fulfil its perfect work until it permeates the realm of moral life as well as that of the physical and mental.

The Authoress gives figures to prove a fact that requires no statistics for the observant, namely, that while by means of compulsory education knowledge has increased, the hunger for it has diminished. She shews that during the last decade a diminishing number of children have travelled the paths of learning beyond the point to which it is compulsory in Prussia; while in Bradford—taking that town as an example of the English appetite for learning—only 626 children, out of 26,992 attending the ordinary primary schools in 1894, have prolonged their school days beyond the age of 13.

She argues well that this hunger for knowledge is often stilled in children in the elementary class room, and goes on to show how a natural education would save this catastrophe which has been brought about by the formal lines of Instruction, apart from Training; and also that the claim that a love of righteousness will be awakened by mere instruction has proved to be fallacious.

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*By Margaret McMillan. London: Swan Sonnenschein & Co., Ltd. 211 pp., 8vo. Price 3s. 6d.

While the desire to save the young grows stronger, the writer deplores that the "power to save lingers," yet she bravely sets forward her idea of the only true lines of training for the moral nature, namely, the natural methods of acquiring knowledge and the maintenance of physical and mental health, and the surrounding of the will with the environment that shall lead it to choose the good instead of the bad in character building.

The natural method, of course, includes the training of the child's activities; and the successive chapters on manual training, oral training, moral training, lead up to the conclusion that it was through work, and not by books, that our race received the vital part of its education, and that the possessor of vitality—physical, mental, and moral—is the conqueror of temptation.

The chapters on the Feeble-minded, Fatigue—normal and abnormal, and The Cost of Mental Effort are full of useful suggestions to those to whom the subject is a new study. Nevertheless, the writer, in spite of one or two expressions to the contrary, leaves the reader with the feeling that the natural methods in education are to give place to the formal as the child emerges into youth, and that at the age of 12 or 14 the educator may with impunity press his own stereotyped methods upon the growing mind that has hitherto retained its natural vitality.

The truth remains, however, as put forward by Froebel in his "Education of Man," and as pressed by the Sanitary Institute upon all its students in School Hygiene, that natural Education is a continuous process, beginning in earliest infancy and passing through youth to manhood; and that it includes the environment of the body and of the mind to ensure man's greatest moral efficiency.

I.W.W.

MANUAL OF SCHOOL HYGIENE.*

In prefacing a Manual of School Hygiene written for the guidance of Teachers in Day Schools, Dr. E. W. Hope and Mr. Edgar A. Browne, F.R.C.S.E., adopt the teaching of all true sanitary and hygienic reformers of the day. They state their conviction that teachers and pupils are alike working under new and unhealthy pressure, and that great watchfulness and care are required to avoid evil consequences: but that "fortunately no great amount of new detailed knowledge is necessary, but rather observation directed to a right purpose."

It is this effort that the writers make, to point teachers' observation to what they already possess—but have only sub-consciously become aware of—that should give the book its greatest value, and bring it into the possession of every teacher; not as a text-book from which to "get up" information, but as a guide-book to direct them how to use their own powers and numerous opportunities of obtaining the most comprehensive views of the subject. Yet withal the authors do not lose sight of the need in the teacher of common sense, that is the application of his intelligence to detail.

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* By E. W. Hope, M.D., and E. A. Browne, F.R.C.S.E. Cambridge: Clay & Son. 207 pp. 8vo. Price 3s. 6d.

Dr. Hope in Part I. treats of the Site, the School Building—its Warming, Lighting, and Ventilation, of Food, Clothing, Sickness, Infection, and Accidents; and "the Child in relation to the School Buildings, etc.," is well treated by Mr. Browne in Part II., under the personal questions, School Furniture, Child's position in regard to light, etc., Care of the Air Passages, Exercise, and Over-pressure in general development, and Over-pressure as affecting the intellect.

The indiscriminating attitude, however, taken by Dr. Browne in the introductory chapter of Part II., and a somewhat inexpedient paragraph later on as to why a school ought to be a healthier place than a house, mars a section of the book otherwise full of sound instruction and suggestion to teachers on the question of over-pressure and the general management of health and development in relation to school education.

The passage asserts that "the teacher ought to be an expert in the administration of the laws of health," and in that we heartily concur; but that "parents are only amateurs, and for the most part possessed of the merest smattering of hygienic knowledge" is a broad expression of contempt for the largest class of the English population, and one not calculated to establish the right relation between the parent, who is responsible for the entire education of his child, and the teacher, who is called in by the parent to assist him in that special portion known as his "school education."

Dr. Browne has used the right word, *amateur* (a lover of his craft), as applied to parents, but the explanatory sentence shews he meant it to be understood in its wrong meaning as novice (noodle or one inexperienced). Had the writer been addressing only teachers of Board Schools—bidding them esteem themselves more highly than they ought as to insight and intelligence in rearing and developing the race, in comparison between themselves and those who had reared and educated them—it would have been difficult in fairness to the mothers of England, poor and simple though they may be, to let the sentiment pass unchallenged: but addressed to secondary teachers as well, in so good a book as that of Dr. Hope and Dr. Browne, the passages require, I venture to think, expunging, to help to remove instead of tending to engender in teachers the tone of self-sufficiency —the bane of all good teaching and training.

Hygiene, to be successfully carried out, must be based on the understanding that parents and teachers are co-operating in the education of the child, and deference must be paid by the teacher— who is merely a limited expert educationalist—to the parent, who is a true amateur educationalist and has gained the soundest of all knowledge, that based on continuous experience. The fact that parental knowledge follows so quickly upon observation as to appear intuitive in no way derogates from its value. To the psychologist it is only an indication of how frequently the process of reasoning must have been repeated and how apt have been the powers of concentration.

Apart from this criticism we have nothing but praise for the good sense and wisdom the book contains, wisdom gathered from the observation of parents, who were teachers, doctors, moralists, and others, during the last twenty-five years, and for the clear way in which the information is imparted.

An important thought is enunciated by the author: that a rational system of school education would provide for the improvement and not permit even the temporary impairment of the child, and that the standard of health is pitched too low in general. This he holds to be caused by town dwellers having become accustomed to a lowered vitality, and that it is because the senses are blunted by custom that they can bring themselves to tolerate the slightly anæmic condition in which those about them, who pass for healthy, are carrying on life.

In taking growth as a standard of health, Dr. Browne makes it clear that the individual is the matter of concern to the schoolmaster, and the child's growth in height, chest girth, weight, is of importance in relation to the child's own individuality rather than in comparison with some outside standard.

Information on over-pressure in relation to physical development is clearly given in the small compass of a few pages, and in such an interesting manner that it may be easily assimilated by the busiest of teachers. The book will serve as a useful guide or handbook for teachers who are studying the syllabus of Practical Hygiene for School Teachers prepared by the Sanitary Institute, as an indication to them how to apply their knowledge and attainments in hygiene to practice in school life.

Over-pressure as affecting deterioration of the intellect is well dealt with, and that there is as much difference between good and bad teaching as between good and bad driving; that in studying children from infancy—"a period," says Dr. Browne, "which no teacher can afford to omit," and a period, we would add, which no teacher can fully study without the wise direction of a mother—note must be taken of what children do spontaneously, what use they make of opportunities, and what they do by imitation, and Dr. Browne adds, "a conscientious use of these observations in devising the scheme of education best adapted to individual children would be the death-blow to more than half the artificial teaching at present in vogue."

This happy consummation, there is reason to believe, is now beginning to be realised definitely. A natural or rational school education for children and youth to 17 or 18 years of age, is being worked out by the King Alfred School Society, to which body the Journal of the Sanitary Institute has several times called attention. Under the steady application of hygiene as a practice continuous through the whole life, including mental as well as physical conditions, we shall find it possible to reach, as Dr.

Browne desires, the potentiality of the bodily and mental strength in any given child, and an environment will be established conducive to the moral education of man—"the last of life, for which the first was planned."

I. W. W.

NOTES ON BOOKS.

Domestic Sanitary Drainage and Plumbing. By W. R. Maguire (Dublin). 3rd Edition, 506 pp., 8vo. London, 1901. *Kegan Paul, Trench, Trübner & Co., Ltd.* Price 12s.

This book is based on a series of lectures given by Mr. Maguire on Practical Sanitation to plumbers, engineers, and others, in the Central Technical Institution, South Kensington, under the auspices of the City and Guilds of London Institute. The book is fully illustrated, especially the chapters on Sanitary Appliances and Sewerage and Drainage. Six chapters deal particularly with Plumbing, and three are devoted to Sewage Disposal, Water Supply, and Hot Water Supply.

Tuberculosis. Price 6d. 8vo. 20, Hanover Square. The official Journal of the National Association for the Prevention of Consumption and other forms of Tuberculosis, published monthly.

The April number contains in addition to notes of the Association's work and Branch Reports, articles by Rowland Thurnam, M.D., on "Nordrach, in the Black Forest"; Francis E. Jones on "Sanatoria for Pauper and other Consumptive Patients"; Jane B. Henderson, M.D.(Brux.), on "A Pure Milk Supply."

"Precautionary Measures against Plague in London." Extract from Report of the Public Health Committee, London County Council.

An extract from the report of the Public Health Committee, approved by the London County Council on April 30th, sets out the provisions made with regard to persons who have been in contact with cases of plague, should this disease find an entrance into London.

These provisions arrange for the housing, and in some cases the clothing, of "contacts" and "suspects." The object of isolating all persons who come in contact with plague cases is to enable them to be kept under medical observation until the period of incubation has passed. They are healthy persons and do not therefore require nursing or special treatment, and it is not proposed that they should be prevented from following their usual occupations. All that is desired is that they shall live in the isolation homes and be medically examined each morning and evening in order that should symptoms of plague develop they may be at once detected, and removal to hospital effected without delay.

The provision which it is necessary to make may be divided as follows:—

(*a*) Accommodation ready at the moment when required for 212 persons.
(*b*) Accommodation which could be got ready in a few hours for 200 persons.
(*c*) Accommodation which could be got ready in a few weeks for 600 persons.

The cost of these precautionary measures is estimated at £50,000. Of course, if plague appears and spreads in London, a further considerable expenditure may be necessary for food of persons isolated, payments to nurses, &c.

The report also shows in detail the procedure which will be adopted in conjunction with the Metropolitan Asylums Board on cases raising suspicion of plague becoming known.

ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

Abstracts of Titles classified in this List under the following headings:—

Science in Relation to Hygiene and Preventive Medicine.
Hygiene of Special Classes, Trades and Professions, and Municipal Administration.
Building Materials, Construction, and Machinery.
Water Supply, Sewerage, and Refuse Disposal.
Heating, Lighting, and Ventilating.
Personal and Domestic Hygiene.

The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.

Science in relation to Hygiene and Preventive Medicine.

ABEL, Dr. R. Was wussten unsere Vorfahren von der Empfänglichkeit der Ratten und Mäuse für die Beulenpest des Menschen? *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 1, p. 89.

The paper contains an interesting summary of the history of our knowledge of the susceptibility of rats and mice for the bubonic plague of man, from the first book of Samuel to the present time.

ANDERSON, John, A.M.I.C.E. County Sanitation. *The Journal of State Medicine*, June, 1901, p. 313.

Refers to difficulties to be met with in administering the Public Health Act, with a few suggestions for strengthening the hands of the Local Authorities.

ANDERSON, T. McCALL, M.D. The Value of Tuberculin in Diagnosis and Treatment. *The Lancet*, June 16th, 1900, p. 1,703.

Cases are quoted illustrating the value of tuberculin for diagnostic purposes and as a means of treatment.

BEVERIDGE, A. T. G., M.B., C.M. Sanitation and Economics. *The Journal of State Medicine*, May, 1901, p. 241.

BLACKMORE, G. J., M.B. Some Notes on the Introduction and Spread of Plague. *The Lancet*, June 23rd, 1900, p. 1,789.

The behaviour of plague when it first makes its appearance, and its progress until it becomes epidemic, are discussed in the light of preventive measures suggested.

BLIESENER, Dr. Beitrag zur Lehre von der Sporenbildung bei Cholerabacillen. (Contribution to our knowledge of the formation of spores of cholera bacilli). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 1, p. 71.

The author records in this paper some interesting observations on the spores of cholera bacilli which he made when experimenting with strongly polluted water.

CAMPBELL, THOMPSON, M.B. Antistreptococcus Serum in Pulmonary Tuberculosis. *British Medical Journal*, October 20th, 1900, p. 1,158.

Notes of a case of pulmonary tuberculosis are given, in which ten injections of antistreptococcus serum were administered without reducing the temperature or improving the patients condition.

CANTANI, A., Junr. Ueber das Wachsthum der Influenzabacillen auf haemoglobin freien Nährböden. (The growth of influenza bacilli in nutrient media containing no haemoglobin). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI. Heft 1, p. 29.

The paper contains an account of the experiments which the author undertook with a view to demonstrating the possibility of cultivating influenza bacilli in nutrient media containing no haemoglobin.

CHRISTOMANOS, Dr. A. A. Zur Farbstoffproduction des Bacillus pyocyaneus (On the production of colouring matter by the bacillus pyocyaneus. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 2, p. 258.

The author enumerates some experiments on the production of colouring matter by the bacillus pyocyaneus, and finally states seven conclusions at which he has arrived.

Colvin, Thos., M.B. The Differential Diagnosis in General Practice of Plague and Typhoid Fever. *The Lancet*, Oct. 27th, 1900, p. 1,194.

The author first discusses the signs and symptoms common to plague and typhoid fever, and then refers in detail to the distinguishing features of each.

Cummins, Major H. A., R.A.M.C. Enteric Fever in South Africa: Effective Sterilisation of Excreta. *British Medical Journal*, November 10th, 1900, p. 1,369.

A method is described by which the excreta and infected articles of clothing, etc., were disinfected by boiling.

Davies, C. A., M.D. Consanguinity as a Factor in the Etiology of Tuberculosis. *British Medical Journal*, Sept. 29th, 1900, p. 904.

The author gives his reasons for the opinion he holds that consanguinity conduces to tuberculosis, and attributes to that factor the high mortality from that disease in the Isle of Man.

Delépine, Sheridan, M.B., B.Sc. The Influence of Bacterial Multiplication, of Dilution, of Sedimentation, and other Factors upon the "Natural Purification" of Running Water. *The Journal of State Medicine*, June, 1901, p. 303.

Donkin, H. B., M.D. The Diagnosis of Diphtheria. *British Medical Journal*, November 3rd, 1900, p. 1,303.

Practitioners are cautioned against placing too much reliance on the bacteriological factor in diagnosis, whether the report is positive or negative.

Elgood, C. B., M.D. Poisoning by Carbon Monoxide. *The Lancet*, September 15th, 1900, p. 805.

The symptoms are described of two cases of poisoning by carbon monoxide (one fatal) which occurred in the laundry of a workhouse in which was a coke stove and hot air chamber.

Emmerich, R. und Löw, O. Die Künstliche Darstellung der immunisirenden Substanzen (Nucleasen-Immunproteïdine) und ihre Verwendung zur Therapie der Infectionskrankheiten und zur Schutzimpfung an Stelle des Heilserums. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 1, p. 9.

This is a lengthy paper on the artificial manufacture of immunising substances, and on their application in the prevention of infectious diseases, and as protective inoculation in place of serum.

Eyre, J., M.D., F.R.S.,Edin. A new Model Centrifuge for the Bacteriological Examination of Milk, &c. *The Journal of State Medicine*, May, 1901, p. 253.

Describes a centrifuge capable of dealing with much larger quantities of milk than those generally employed. At least 250 c. c. of milk is recommended to be used.

Fermi, Prof. C., and **Tonsini, Dr.** The Prophylaxis of Malaria and the Destruction of Mosquitoes in the Island of Asinara. *The Lancet*, October 20th, 1900, p. 1,127.

The authors give an account of the successful means which were taken to stamp out malaria in the island.

Foulerton, A. G. R., F.R.C.S. Preventive Inoculation against Typhoid Fever. *The Lancet*, June 2nd, 1900, p. 1,578.

The method of preparation of the protective agent is described, also the operation and its effects. The amount of protection afforded is discussed, but it is said that at present there is not sufficient evidence on which to form a very definite opinion. That it succeeds in laboratory experiments there is no question.

Gabritschewsky, G. Zur Prophylaxe der Diptherie (The prophylaxis of diphtheria). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 1, 45.

This is a lengthy paper on the prophylaxis of diphtheria, containing a set of six conclusions at which the author has arrived.

Horton-Smith, P., M.D. The Goulstonian Lectures on the Typhoid Bacillus and Typhoid Fever. *British Medical Journal*, April 7th, 1900, p. 827.

Full extracts of three lectures in which the bacterial aspect of the disease (pathogenic, diagnostic, and preventive) is fully discussed.

Hunter, W., M.D. Further observations on Pernicious anæmia: a Chronic Infective Disease. *The Lancet*, January 27th, February 3rd and 10th, 1900, pp. 221, 296, and 371.

Arguments are brought forward, which are supported by accounts of cases, which point to the disease being an infective one connected with the digestive system.

Hutchison, R. F., M.D. Die Verbreitung von Keimen durchgewöhnliche Luftströme. (The distribution of germs through ordinary air currents). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 2, p. 223.

This is an interesting and painstaking investigation into the distribution of germs through ordinary air currents.

Kleine, Dr. F. K., Ueber Entgiftung im Thierkörper (On the destruction of poisons within the body of animals. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft. 1, p. 1.

This is a short but interesting paper on the neutralisation of strychnine within the body of guinea pigs.

Koelzer, Dr. W. Weitere Beobachtungen über die "Widalsche Reaction" bei Abdominaltyphus. (Further observations on "Widals' reaction" in enteric fever). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 1, p. 75.

The paper deals with the value or otherwise of the so-called "Widal's reaction" for the diagnosis of enteric fever, and enumerates a number of interesting experiments.

Kolle, Prof. Dr. W. Bericht über die Thätigkeit in der zu Studien über Pest eingerichteten Station des Instituts für Infectionskrankheiten, 1899—1900. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 3, p. 397.

This is a report for the year 1899—1900 on the work done by the plague department of the Institute for infectious disease at Berlin, the head of which is R. Koch.

Macdougald, G. D., F.I.C. The Determination of the Bacillus Coli in Drinking Water. *The Journal of State Medicine*, June, 1901, p. 318.

Macfadyen, Allen. M.D., and **Roland**, S., M.A. Note on the Influence of the Temperature of Liquid Air on Bacteria. *The Lancet*, April 21st, 1900, p. 1,130.

An experiment with liquid air and various bacteria is described, in which the bacteria were exposed to a temperature of — 190° C. without appreciable impairment of their vitality.

Manson, Patrick, M.D. Malaria and the Malarial Parasite. *The Lancet*, May 19th, 1900, p. 1,417.

The lecture deals with the nature of the parasite, its behaviour in the body of the patient, and in the body of the mosquito.

Neisser, Dr. M., and **Wechsberg**, Dr. F. Ueber das Staphylotoxin (On Staphylotoxine). *Zeitschrift für Hygiene Infectionskrankheiten*, Bd. XXXVI., Heft 3, p. 299.

The authors show that the pyrogenic Staphylococci are capable of producing two kinds of blood poisons, which must be looked upon as toxines. Hence Staphylococci belong to that class of microbes which produce soluble poisons.

Neufeld, Dr. F. Ueber die Erzeugung von Erysipel am Kaninchenohr durch Pneumokokken. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 2, p. 254.

The paper deals with the question of the production of erysipelas in the ear of rabbits through pneumococci.

Petruschky, Dr. J. Krankheitserreger und Krankheits bild (Disease exciting causes and the symptoms of disease). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 1, p. 151.

The Author is of opinion that it has never been possible to diagnose an infectious disease from a description of the symptoms, and that the results of a bacteriological examination is indispensable for the scientific diagnosis of such a disease.

Pianese, Dr. G. Ueber ein Protozoon des Meerschweinchens (On a protozoon of the guinea-pig). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 3, p. 350.

This paper deals with a protozoon of the guinea-pig.

Prip, Dr. H. Ueber Diphtherie bacillen bei Reconvalescenten-nach Diptherie. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 2, p. 283.

The paper deals with the existence of diphtheria bacilli in patients recovering from this disease.

Rideal, S., and **Stewart**, C. G. Determination of Dissolved Oxygen in Waters in presence of Nitrites and of Organic Matter. *The Analyst*, June, 1901, p. 141.

Röse, Dr. C. Untersuchungen über Mundhygiene (Investigations concerning the hygiene of the mouth). *Zeitschrift für Hygiene und Infectionskrankheiten*; Bd. XXXVI., Heft 2, p. 161.

The Author is of opinion that the healthy condition of the mucous membrane of the mouth is the best safeguard against the propagation of numerous infectious diseases.

Russell, **Edward**, B.Sc., F.I.C., F.C.S., and **Porter**, A. E., M.D., D.P.H. Enquiry into the Chemical and Bacteriological Condition of the Air of School-rooms. *The Journal of State Medicine*, June, 1901, p. 322.

Savage, W. G., M.D. Remarks on Ten Cases of Enteric Fever, in which the Blood was examined periodically for Agglutinative Properties. *The Lancet*, Nov. 17th, 1900, p. 1,401.

SCHOTTMÜLLER, Dr. Weitere Mittheilungen über mehrere das Bild des Typhus bietende Krankheitsfälle, hervorgerufen durch typhus ähnliche Bacillen (Paratyphus). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 3, p. 370.

The Author records his investigations in a series of cases which clinically had the appearance of typhoid fever, but which were caused by typhoid-like bacilli.

SCHÜTZE, Dr. A. Ueber ein biologisches Verfahren zur Differenzirung der Eiweissstoffe verschiedener Milcharten (On a biological process for the differentiation of the albumen of different sorts of milk). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI. Heft 1, p. 5.

The Author describes in a short paper a new biological process by which he is able to determine whether the albumen of different animals is identical or not, and concludes from his experiments that each species of animals has its specific milk.

SCHÜTZE, Dr. A., and **SCHELLER**, Dr. R. Ueber die Regeneration aufgebrauchter globulicider Substanzen im inficirtem Organismus. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 3, p. 459.

The paper deals with the regeneration of spent globulicide substances in the infected organism.

SCHÜTZE, Dr. A., and **SCHELLER**, Dr. R. Experimentelle Beiträge zur Kenntniss der im normalen Serum vorkommenden globuliciden Substanzen. *Zeitschrift für Hygiene und Infectionskrankheiten*. Bd. XXXVI., Heft 2, p. 270.

The paper contains experimental contributions to our knowledge of globulicide substances in normal serum, and finishes with a set of four conclusions.

SIMON, M. F., M.D. Plague in Relation to Singapore. *The Lancet*, Jan. 20th, 1900, p. 153.

Facts are given with reference to the facility or otherwise of the transmission of plague by sea.

TOBLER, M. Beitrag zur Frage des Vorkommens von Tuberkelbacillen und andern säurefesten Bacillen in der Marktbutter *Zeitschrift für Hygiene und Infectionskranhheiten*, Bd. XXXVI., Heft 1, p. 120.

The Author concludes from his experiments that virulent tubercle bacilli are by no means rare in butter offered for public sale.

Tooth, Howard H., M.D. Enteric Fever in the Army in South Africa, with Remarks on Inoculation. *British Medical Journal*, Nov. 10th, 1900, p. 1,368.

The effect in the causation of enteric from water, dust, flies, is discussed, and a prominent place is given to the last two. Evidence is given pointing to the efficacy of inoculation, which, it is said, should be performed more than once, at least in some cases.

Weichardt, Dr. W. Beitrag zur Lehre der Allgemeinfection des Organismus mit Typhus bacillen. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 3, p. 440.

The author records a case, which anatomically could not be diagnosed as enteric fever, but in which the presence of a general infection through typhoid bacilli was proved by the bacteriological investigation.

Weil, Dr. R. Die Sporenbildung des Milzbrandes bei Anaërobiose. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 3, p. 451.

The author deals with the spore formation of anthrax under anaërobic conditions.

Wright, A. E., M.D., and Leishman, W. B., M.B. Remarks on the results which have been obtained by Anti-typhoid Inoculations and on Methods of Preparation of the Vaccine. *British Medical Journal*, January 20th, 1900, p. 122.

Statistics are given showing the results of inoculations in the case of 11,295 soldiers, 2,835 of whom had been inoculated. An account is also given of the method of preparing the cultivations.

Wright, A. E., M.D. A Note on the Results obtained by the Anti-typhoid Inoculations in the Beleaguered Garrison in Ladysmith, *The Lancet*, July 14th, 1900, p. 95.

Figures are given and circumstances are discussed which in all probability rendered the results even more favourable than the statistics indicated.

Jochmann, Dr. G., and Krause, Dr. P. Zur Aetiologie des Keuchhustens. (On the aetiology of whooping cough). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVI., Heft 2, p. 193.

The paper deals with the exciting causes of whooping cough, and after enumerating a number of investigations the authors come to the conclusion that the sputum of whooping cough contains in the majority of cases very small influenza-like bacilli.

JOOS, Dr. A. Untersuchungen über den Mechanismus der Agglutination. *Zeitschrift für Hygiene u. Infectionskrankheiten*, Bd. XXXVI., Heft 3, p. 422.

The paper deals with the mechanism of agglutination.

Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

COOPER, W. An Ideal Workman's Cottage. *The Journal of State Medicine*, May, 1901, p. 256.

HALL, EDWIN T., F.R.I.B.A. Flats. *Building News*, January 25th, 1901, p. 115.

Development of the flat system. Problems to be solved. Sanitary arrangements. Ventilation. Ventilation of well holes. Floors. The block plan. Planning. Small sites.

HINE, G. T., F.R.I.B.A. Asylums and Asylum Planning. *Journal Royal Institute of British Architects*, February, 23rd, 1901, p. 161. *Surveyor*, February 22nd, 1901, Supplement.

Historical sketch of the building of asylums, with description of various stages in the evolution of asylum planning. The Claybury asylum. Asylum administration. Cost of construction.

MEASURES, H. B. Self-supporting Lodging Houses for Men. *Building News*, March 22nd, 1901, p. 395–96.

Rowton houses. General arrangement. Administration. Cubical floors. Catering department and description of houses at King's Cross, Hammersmith, and Whitechapel.

MEASURES, H. B. Rowton Houses. *The Builder*, March 23rd, p. 285.

Description of the buildings with plan, section, and perspective view of those erected at Newington Butts.

PATTERSON, MARY M. Modern Workshops. *The Journal of State Medicine*, May, 1901, p. 262.

Deals with their sanitary requirements.

RILEY, W. E., F.R.I.B.A. Dwellings for the Working Classes. *Building News*, March 15th, 1901, p. 359.

Legislation as to artizans' dwellings. Royal commissions. Overcrowding. Methods of dealing with "condensed areas." Cost, Rowton House. Dwellings in Glasgow, etc.

Snell, Alfred Saxon, F.R.I.B.A. St. Marylebone Schools, Southall. New Probationary Wards and Infirmary. *The Builder*, March 16th, 1901, p. 270.

Description of buildings with plans.

Starke and Rowntree. Glasgow Infirmary Competition Design. *The Builder*, March 16th, 1901, p. 266.

Plans and perspective view.

Stockport Union Infirmary Competition. *Builder*, March 23rd, 1901 p. 282.

Description of various designs submitted.

Willink, H. G. Building By-laws in Rural Districts. *Building News*, February 8th, 1901, p. 189.

No obligation to make by-laws with respect to new streets. Conditions under which portions of Public Health Act, 1890, may be adopted. Comparison of by-laws in rural and urban districts. Suggestions as to rural by-laws.

Wilson, H. M'Lean, M.D., B.Sc. The Treatment of Wool-Washing Suds by Evaporation. *The Journal of State Medicine*, June, 1901, p. 325.

White, T. F. Oiled Road Construction. *The Engineering Record*, March 30th, p. 298.

Account of construction and cost of oiled road.

Building Materials, Construction and Machinery.

Stanger, W. H., M.Inst.C.E., Blount, B., Assoc.M.Inst.C.E. The Rotary Process of Cement Manufacture. *Engineering*, March 1st, 1901, p. 279–80.

Advantages of rotary process of manufacture. Amount of fuel required. The system in America. Cost of manufacture.

Water Supply, Sewerage and Refuse Disposal.

Barker, Algernon. Rights as to Sewage. *Journal of Royal Institute of British Architects*, June 8th, 1901, p. 369.

Legal aspect of draining into sea, rivers, ditches, etc.

Body, J. B., A.M.I.C.E. The Drainage of the Valley of Mexico. *Minutes of Proceedings of the Institution of Civil Engineers*, Vol. CXLIII., 1900—1901, Part I., p. 286.

Butler, William, M.B., D.P.H. Brent Sewage Problem and its Solution. *The Surveyor*, May 17th, 1901, p. 597.

Water supplied to canal companies. Action of sanitary authorities. The purification of sewage. Bacterial treatment of sewage. Ultimate solution of the Brent problem.

Dibdin, W. J., F.I.C., and **Smith, C. Chambers**. General Principles of Sewage Purification. *The Surveyor*, May 3rd, 1901, p. 533–34.

Principles necessary for the purification of sewage. The removal of solids held in suspension. The treatment of organic matters left in suspension. Bacteria. Requirements of Local Government Board. Points to be observed in designing a scheme. Trade refuse and legal aspect of the question. Cases referred to.

Greatorex, A. D., A.M.I.C.E. Sewage Treatment at West Bromwich. *The Surveyor*, March 1st, 1901, p. 258–59.

Results of twelve months' bacterial treatment at West Bromwich. Method of working the high and low level beds. Conditions necessary for successful treatment. Samples and analyses. Effect of temperature on beds. General conclusions.

Grimley, F. C., R.E. Kings Lynn Water Supply. *The Surveyor*, March 15th, 1901, p. 332-34.

The old water supply. New works. Wells. Pumping station. Engines and pumps. Rising main. Covered reservoirs. Delivery main. Cost of works.

Harriott, G. M., C.I.E. The Balram Dass Waterworks, Raipur Provinces, India. *Minutes of Proceedings of the Institution of Civil Engineers*, Vol. CXLIII., 1900—1901, Part I., p. 262.

Healey, B. D. The Economical Disposal of Town Refuse. *Transactions of Society of Engineers*, 1900, p. 65.

Jensen, Gerald J. G. Notes on Certain Details of Drainage Construction. *Building News*, March 8th, 1901, p. 330.

Importance of attention to details. Ventilation pipes. Action of drain air on human constitution. Hopper heads to waste pipes. Overflow pipes.

McDonald, A. B. Glasgow Main Drainage. *Transactions of the Institution of Engineers and Shipbuilders in Scotland*, Vol. XLIII., 1899—1900, p. 267.

Mansergh, James. Presidential Address. *Minutes of Proceedings of the Institution of Civil Engineers*, Vol. CXLIII., 1900—1901, Part I., p. 1.

An address on water supply.

Shenton, H. C. H. Recent Practice in Sewage Disposal. *Transactions of Society of Engineers*, 1900, p. 217.

Heating, Lighting, and Ventilating.

Mason, Chas., Assoc.M.Inst.C.E. Heating and Ventilation. *The Surveyor*, February 22nd, 1901, Supplement.

The progress and development of modern heating as applied to domestic dwellings. Advantages and disadvantages of steam, water, and air, as mediums for transmission of heat, radiators. Boilers, etc., in general use.

Munroe, William S. Modern Practice in Steam Heating and Ventilation. Chapters X. & XI.—Ventilating Fans, Heating Coils, and other Apparatus. *The Engineering Record*, December 15th and 29th, 1900, pp. 576 and 621.

Illustrated.

Personal and Domestic Hygiene.

Alexander, F. W., L.R.C.P. Some Facts gathered from experience respecting Miscible Black Carbolic Disinfecting Fluid and Carbolic Disinfecting Powder. *The Lancet*, Jan. 20th, 1900, p. 158.

Mention is made of the varying strength of the material sold, and the need is pointed out for a uniform standard and method of analysis.

Blyth, Meredith Wynter, B.A., B.Sc. Detection and Estimation of Preservatives in Milk. *The Analyst*, June, 1901, p. 148.

Burgess, Arthur H., M.B. The Comparative Germicidal Action of some Disinfectants. *The Lancet*, June 23rd, 1900, p. 1,797.

Experimental methods are described and the results in the case of fourteen disinfectants are set forth in a table.

Dalton, J. H. C., M.D., and L. **Cobbett**, M.D. Some Experiments on the Sterilising Properties of Unconfined Superheated Steam. *The Lancet*, February 3rd, 1900, p. 299.

Conclusions are drawn from a series of experiments to test the value of steam as a disinfectant under different conditions as regards pressure, superheating, etc.

Dyer, Bernard, D.Sc. Some Analyses of Oatmeal. *The Analyst*, June, 1901, p. 153.

Halliburton, W. D., M.D., F.R.S. .Remarks on The Use of Borax and Formaldehyde as Preservatives of Food. *British Medical Journal*, July 7th, 1900, p. 1.

An account is given of certain experiments which are said to prove conclusively that boric acid and formaldehyde, but particularly the latter, are injurious to the digestive processes.

Liverseege, J. F., F.I.C. Note on the Approximate Estimation of Formaldehyde in Milk. *The Analyst*, June, 1901, p. 151.

Rideal, S., D.Sc. The Use and Abuse of Preservatives. *The Lancet*, January 27th, 1900, p. 228.

Experiments on animals point to the fact that such are of no value as a test as to the effect of preservatives. Figures are given to show the quantity of boric acid and formaldehyde necessary to preserve milk at different temperatures and for various periods.

SANITARY LEGISLATION.

The Institute have had under consideration the following Bills introduced into Parliament this Session. The action taken by the Council is noted in each case :—

Isolation Hospitals (Amendment) Bill. Brought in by the Earl of Lichfield.

A Bill intituled as an Act to amend the Isolation Hospitals Act, 1893.

The Council petitioned in favour of the Bill.

Rivers Pollution Prevention Bill. Brought in by Sir Francis Powell.

A Bill to make more effectual Provision for the prevention of the Pollution of Rivers and Streams.

The Council petitioned in favour of this Bill, calling attention to the desirability of amending the definition of "matter in suspension" which is re-enacted in the Bill.

Water Companies' Liability for Storage Bill.

No action was taken in regard to this Bill.

Factory and Workshop Acts, Amendment Bill. Brought in by Mr. Secretary Ritchie and Mr. Jesse Collings.

The Council petitioned in favour of this Bill, calling the attention of the Home Secretary to Clause 26,—where the Inspection of certain Industries is proposed to be taken out of the hands of Sanitary Authorities, and to Clause 9, urging that the place of residence should be stated as well as the place of occupation.

Factories and Workshops' Bill. Brought in by Mr. Tennant, Sir Charles Dilke, Mr. Talbot, Mr. John Burns, Mr. Sydney Buxton, Mr. Haldane, Sir John Stirling Maxwell, and Mr. McKenna.

A Bill to amend the Law relating to Factories and Workshops.

The Council petitioned in favour of this Bill.

Houses of Working Classes (Repayment of Loans) Bill. Brought in by Mr. Hay, Mr. Bull, Mr. Duke, Mr. Evelyn Cecil, Mr. Flower, Mr. Goulding, Mr. Remnant, and Mr. H. S. Samuel.

A Bill to extend the period for the repayment of Loans raised for the provision of Workmen's Dwellings, and to confer further borrowing powers on Local Authorities.

The Council petitioned in favour of this Bill.

Public Health Bill. Brought in by Sir Francis Powell, Sir Walter Foster, Mr. Talbot, Dr. Farquharson, Mr. Henry Hobhouse, Mr. Cripps, Mr. Heywood Johnstone, and Sir Michael Foster.

A Bill to amend the Law relating to the qualification and tenure of office of Medical Officers of Health, Inspectors of Nuisances, and Sanitary Inspectors, and to provide for Superannuation Allowances to such Officers and Inspectors, and for contribution towards such allowances by such Officers and Inspectors, and to make other relative provisions.

The attention of the promoters of this Bill was drawn to certain clauses where it was thought alterations were desirable.

Cremation Bill.

A Bill intituled an Act for the regulation of the burning of Human Remains, and to enable Burial Authorities to establish crematoria.

The Council petitioned in favour of this Bill.

Model By-laws of the Local Government Board for Rural District Councils with respect to New Buildings.

The Local Government Board having forwarded copies of these Draft By-Laws and invited the Institute's observations thereon; a number of suggested alterations and amendments which, in the opinion of the Council were desirable, were forwarded to the Board. The By-Laws have now been issued.

MEETINGS HELD APRIL TO JUNE, 1901.

SESSIONAL MEETING.

A Meeting was held on April 17th, when a discussion was opened by H. R. KENWOOD, M.B., L.R.C.P., D.P.H., and W. BUTLER, M.B., D.P.H., on "Sewage Purification and Standards of Purity"; Mr. A. Wynter Blyth in the chair.

The Paper and Discussion are printed in the JOURNAL, p. 97.

LECTURES TO SANITARY OFFICERS.

The Thirty-First London Course of Lectures and Demonstrations to Sanitary Officers was concluded on April 22nd.

The Course of Lectures held in Leeds under the auspices of a Joint Committee formed by The Sanitary Institute, the Technical Instruction Committee of the West Riding County Council, the County Boroughs of Leeds, Bradford, Huddersfield, and Halifax, and Yorkshire College, proved most successful. Over three hundred inspectors and others attended the Lectures, and a number of them entered for the examination, arranged by the Institute at Bradford, at the conclusion of the course. This has been one of the most successful and largely attended of these courses that have been held, and is another evidence of the interest taken in sanitary matters in the West Riding of Yorkshire.

The Lectures were held in the Philosophical Hall, Leeds, on Saturday afternoons, commencing April 13th. There was an average attendance of 260.

EXAMINATIONS.

From April to June the following Examinations were held:—

PRACTICAL SANITARY SCIENCE.

April 26th and 27th, London. 12 Candidates, 5 Certificates granted.
June 7th and 8th, Dublin. 2 Candidates, 2 Certificates granted.
June 28th and 29th, Bradford. 1 Candidate.

INSPECTORS OF NUISANCES.

April 26th and 27th, London. 113 Candidates, 55 Certificates granted.
June 7th and 8th, Dublin. 9 Candidates, 3 Certificates granted.
June 29th and 29th, Bradford. 88 Candidates, 42 Certificates granted.

INSPECTORS OF MEAT AND OTHER FOODS.

May 3rd and 4th, London. 9 Candidates, 3 Certificates granted.

PRACTICAL HYGIENE FOR SCHOOL TEACHERS.

June 28th and 29th, Bradford. 4 Candidates, 4 Certificates granted.

Candidates who have received Certificates, April–June, 1901.

Practical Sanitary Science.

1901, June 8.		Byrne, Thomas.
1901, Apr. 27.		Elgar, Fred.
1901, Apr. 27.		Grave, Guy Bertie.
1901, Apr. 27.		Gray, Kenneth.
1901, Apr. 27.		Sands, Percy Brett.
1901, June 8.		Ward, George.
1901, Apr. 27.		Wood, Robert.

Inspectors of Nuisances.

1901, Apr. 27.	*L*	Agnew, Miss Jean.
1901, Apr. 27.		Anderson, Arthur.
1901, Apr. 27.		Austen, William Alexander.
1901, Apr. 27.		Barker, William John.
1901, Apr. 27.		Barnes, George Frederick.
1901, Apr. 27.		Beal, Samuel Percy.
1901, Apr. 27.	*L*	Beeston, Miss Edith Isabel.
1901, June 29.		Bentley, John.
1901, Apr. 27.	*L*	Bhose, Miss Mary Grace.
1901, Apr. 27.	*L*	Biggs, Miss Adeline Eunice Traherne.
1901, June 29.		Bivens, George Edward.
1901, Apr. 27.		Bocock, Sidney Thomas.
1901, Apr. 27.		Bonham, Arthur Ernest.
1901, June 29.		Bradley, Josiah.
1901, June 29.		Brear, Benjamin.
1901, Apr. 27.		Burgess, Alfred.
1901, Apr. 27.		Burgess, John James.
1901, Apr. 27.		Burrows, William J.
1901, Apr. 27.		Canham, Charles Edward Lewis.
1901, June 29.		Clapham, John Henry.
1901, Apr. 27.		Clarke, Robert Ephraim.
1901, Apr. 27.		Clements, John Stephen.
1901, June 29.		Coates, James Christopher.
1901, June 8.		Cook, James.
1901, Apr. 27.		Cooper, John.
1901, June 29.		Craven, Lewis John.
1901, June 29.		Crawshaw, Jonas Kenyon.
1901, Apr. 27.		Crawshaw, Lewis.
1901, June 29.		Crowther, Joe.
1901, June 29.		Darley, Fred.
1901, June 29.		Drake, Henry.
1901, June 29.		Dudding, George Leonard Eccles.
1901, June 29.		Duffy, James Henry.
1901, June 29.	*L*	Evans, Mrs. Jane.

1901, Apr. 27.		Fanner, William.
1901, June 29.		Fell, Edward Thomas.
1901, Apr. 27.		Fisher, Clarence William.
1901, Apr. 27.	*L*	Fisher, Mrs. Theodora.
1901, Apr. 27.		Ford, David John.
1901, June 29.		Foy, John.
1901, Apr. 27.		Fulker, Frederick Francis.
1901, June 29.		Garner, Arthur.
1901, June 29.		Greenwood, James.
1901, Apr. 27.		Grontage, Richard Henry Latham.
1901, June 8.		Hansahan, Patrick.
1901, Apr. 27.		Hartfree, George Bertram.
1901, Apr. 27.		Hillyard, Morris John James.
1901, Apr. 27.	*L*	Hoc, Miss Mary Françoise.
1901, Apr. 27.		Holley, Arthur William.
1901, June 29.		Hopkinson, Law.
1901, Apr. 27.		Hunt, Harold Charles.
1901, Apr. 27.		Jackson, John.
1901, June 29.		Jenkinson, Joe.
1901, June 29.		Johnson, James Edward.
1901, Apr. 27.		Jones, William.
1901, June 29.		Judson, John Mark.
1901, June 29.	*L*	Kemp, Mrs. Ada.
1901, Apr. 27.		Kennan, John Joseph.
1901, Apr. 27.		Knight, Raymond Rice.
1901, Apr. 27.		Lane, William George.
1901, June 29.		Lord, John.
1901, Apr. 27.		Lucas, Alfred William.
1901, June 29.		Manton, Edwin.
1901, June 8.		Mark, John.
1901, June 29.		Marsden, Ralph.
1901, Apr. 27.		Martin, Horace.
1901, Apr. 27.		Matthews, Alfred.
1901, Apr. 27.		Mitchell, Charles.
1901, June 29.		Moorhouse, Ernest Frederick.
1901, Apr. 27.		Morgan, Philip.
1901, Apr. 27.		Morley, Thomas L.
1901, Apr. 27.		Murray, George Leonard.
1901, Apr. 27.		Phillips, Thomas Brice.
1901, Apr. 27.		Phillips, Thomas Edwin.
1901, Apr. 27.		Platford, A. E.
1901, June 29.		Priestley, Isaac.
1901, June 29.		Raine, Alfred.
1901, Apr. 27.		Rapley, James Wilfrid Murrant.
1901, June 29.		Raskin, Philip M.
1901, Apr. 27.		Scothern, William.
1901, Apr. 27.		Sheriff, Frank.
1901, June 29.		Simm, Ernest.
1901, Apr. 27.		Sinnett, Ernest John Gosden.
1901, Apr. 27.		Smith, Thomas Valentine.

1901, June 29.	Spencer, Charles Augustus.
1901, June 29.	Spencer, Harry.
1901, June 29.	Stalker, Alfred.
1901, June 29.	Standish, Ernest.
1901, June 29.	Thompson, George Wharton.
1901, Apr. 27.	Thomson, John.
1901, June 29.	Walshaw, John George.
1901, June 29.	Watson, Edward.
1901, June 29.	Weatherbed, James.
1901, June 29.	West, Henry.
1901, Apr. 27.	White, Coleridge Dingley.
1901, Apr. 27.	Whitehead, John Edward.
1901, Apr. 27.	Wickham, Robert.
1901, June 29.	Wilkinson, Thomas Fletcher.
1901, Apr. 27.	Windmill, Daniel William.
1901, June 29.	Worthington, William.

Inspectors of Meat and Other Foods.

1901, May 4.	Hocken, Alfred Jesse.
1901, May 4.	Nunn, Veterinary Lieut.-Col. Joshua A., F.R.C.V.S., D.S.O., C.I.E.
1901, May 4.	Roberts, John.

Practical Hygiene for School Teachers.

1901, June 29.	*L* Blakeley, Miss Clara Ann.
1901, June 29.	*L* Cox, Miss Irene Winifred.
1901, June 29.	*L* Muir, Miss Mary Alice.
1901, June 29.	*L* Stephenson, Miss Maria.

Examination Questions.

Practical Sanitary Science.—London, April 26th and 27th, 1901.

1. How is the quantity of water delivered by a pipe affected by the pressure, length and diameter respectively? What other points affect the flow?

2. Explain how aspect affects a building; state the best aspect for larders, bed-rooms and sitting-rooms respectively.

3. State the different kinds of timber in general use for building purposes, with a general description of each, the respective defects most frequently met, and the use for which each kind is specially suited.

4. How would you light an elementary schoolroom? What relation should the window area have to the floor space?

5. What precautions are necessary in warming air to be admitted to living-rooms? and what are the best means of warming large quantities of air?

6. Explain the varying velocities in and discharges from a sewer under the following conditions of flow: (1) one-third full; (2) one-half full; (3) three-quarters full; (4) full. Sketch a curve to illustrate these.

7. What are the biological processes concerned in the resolution and purification of the organic matters in sewage?

8. Sketch and describe the working of any good form of refuse destructor, with particulars of temperatures, and the conditions that are essential to produce perfect cremation and the avoidance of dust escaping with the waste gases.

The Candidates were examined vivâ voce *on the 27th.*

Practical Sanitary Science.—Dublin, June 7th and 8th, 1901.

1. What is the weight of a cubic foot of (*a*) air at atmospheric pressure, (*b*) carbonic acid gas at atmospheric pressure? Why does not a heavy gas remain at ground level? What causes winds?

2. Describe the principle of a Mercurial Barometer, and of an Aneroid Barometer. Illustrate your answer by sketches.

3. State fully the advantages of mountain climates as compared with those of plains. How is temperature affected by altitude?

4. What is meant by "ground air"? Why is it impure, and what precautions are taken to prevent it entering dwellings?

5. Describe the agencies at work in the purification of water by means of sand filters on a large scale. Describe the cleansing and re-starting of such a filter.

6. How is the combustion of fuel affected by the air supply? What are the causes of smoke?

7. Explain fully the advantages and disadvantages of heating by (*a*) open gas fires, (*b*) gas stoves, (*c*) naked gas jets.

8. What is the discharging capacity (in cube feet per minute) of a 2-feet circular sewer, running full—the inclination being 1 in 500? Give the formula used, and show the working.

The Candidates were examined vivâ voce *on the 8th.*

Practical Sanitary Science.—Bradford, June 28th and 29th, 1901.

1. Discuss the suitability of the following sites for residential property: Rock, sand or gravel, chalk, clay, and alluvial drift. State how these soils influence health.

2. A few years ago it was customary in the suburbs of London to fill up a low-lying site with dustbin refuse, and then to build upon it. What were the hygienic objections, could they be overcome, and what is the present law upon the subject?

3. What amount of water should be provided per head per day for domestic purposes in a town? Give the amount provided in any two towns you know of. What are the chief causes of the variation in amount used in different towns?

4. What waters act most upon lead? Describe the most recent views of the action of moorland water upon lead pipes, particularly in autumn.

5. Describe the various forms of fire-resisting construction. Illustrate by sketches.

6. What is the cubic capacity of a sphere 9 feet in diameter? How much water will a hemi-spherical tank 16 feet in diameter contain when three solid spheres each 2 feet 6 inches in diameter are within it?

7. Describe clearly the principle and working of (*a*) low-pressure hot-water heating apparatus; (*b*) hot-water domestic service; (*c*) warming by hot air. Compare the merits of hot water and hot air for warming buildings.

(8) What is necessary in order that a sewer may be self-cleansing? If these conditions cannot be attained, describe two methods of keeping the sewers clean.

The Candidates were examined vivâ voce *on the* 29*th.*

Practical Hygiene for School Teachers.—Bradford, June 28th and 29th, 1901.

Only Twelve Questions were to be answered, the selection being left to the Candidates.

1. What are the effects of physical overstrain upon the heart and the circulation of the blood? What symptoms may such overstrain give rise to?

2. What is a proteid substance? What changes does such a substance undergo in the process of human digestion? What principles of feeding should be observed in the case of a child under six months of age?

3. It is observed by the teacher that several pupils are suffering from sore throat. Indicate the various steps which should be taken to guard the other pupils against any possible infection. What might be the nature of such infection?

4. Discuss the connection between bodily health and training, and mental health and training. Give reasons for presenting to the student of hygiene the actual object under consideration, in preference to a good diagram or description.

5. What have you found to be the chief causes of mental fatigue in your own school life? What steps would you take to remove similar causes in a school under your care?

6. What are the relative advantages and disadvantages of hill and valley sites for schools? How does the proximity of a large area covered by water or trees affect the climatic conditions?

7. What is the best aspect for (*a*) a dining room, (*b*) a school class-room? Give reasons for your selection, and a diagram showing the position of windows, door, fireplace, pupils, and teacher in a class-room.

8. What are the chief points to be considered in regard to the lighting of a class-room? What is the usual relation of glass area to floor space?

9. What are the relative advantages and disadvantages of heating a school building by close stoves, open fireplaces, hot air, and hot water? What is the most healthy temperature to work in?

10. What is the composition of pure air, and what are the most common impurities in the air of towns? What is the average composition of respired air, and how much fresh air does a healthy adult at rest require per hour?

11. Describe some means of ventilating a large schoolroom without draught.

12. Describe what action you would take in the case of a well suspected of pollution. What circumstances would indicate probable pollution of the water?

13. What measure would you take as the teacher of a Form to give your class actual knowledge of all Sanitary and Hygienic apparatus of which he will have to make use, either directly or indirectly, during his time in school? In what way is knowledge so acquired likely to lead to more healthy conditions in the child's home life?

14. If the drains of a school are suspected to be faulty how should they be tested?

15. State the purport of the Code of Regulations for Day Schools, issued by the Board of Education, which refer to "Sanitary Arrangements."

16. State the requirements of a hygienic desk and seat in reference to the particular child who is to occupy it.

The Candidates were examined vivâ voce *on the 29th.*

Inspector of Nuisances.—London, April 26th and 27th, 1901.

1. What are the powers of Local Authorities with respect to
    (*a*) The pollution of a water-course?
    (*b*) Injurious substances, hot water, or steam, discharged into a sewer? Give the Acts relating thereto.

2. What observations should be made by a Sanitary Inspector in respect of a smoke nuisance? What is the cause of the issuing of black smoke from furnace flues, and in what ways may the nuisance be remedied or abated?

3. State briefly in what particulars the law relating to the Sale of Food and Drugs is extended by the Sale of Food and Drugs Act, 1899, so far as it relates to purchasing samples and taking proceedings for infringements of the Act.

4. The contents of a privy have been emptied upon land in the near neighbourhood of a stream which is used to supply drinking water. What steps would you take to prevent pollution of the water in the stream, and to minimise the effects of any pollution that has already occurred?

5. Describe the use of a damp-course, the materials of which it may be composed, and its application in the case of a basement wall.

6. Describe the construction (with sketch) of a slop water-closet, and of a trough water-closet. What are the advantages or disadvantages of each?

7. Describe the proper method of constructing drains with stoneware pipes, and state the points to which you would give special attention, with reference both to the quality of material and method of laying. Illustrate your answer by sketches.

8. Make a sketch showing in detail how you would arrange the drainage of a house having two water-closets—one on the ground floor and the other on the first floor—also a bath and a sink on the first floor.

The Candidates were examined vivâ voce *on the 27th.*

Inspectors of Nuisances.—Dublin, June 7th and 8th, 1901.

1. What do you understand by the following terms:—"Urban district," "contributory place," "private improvement expenses," "rack rent," "statutory powers," "jurisdiction," public place," "premises," "curtilage"?

2. What are the powers of a Sanitary Authority respecting conveniences used in common by two or more families? State under what Act the powers are given, and whether they apply to both urban and rural districts.

3. Describe a Canal Boat Register, and the certificates issued upon the registration of a canal boat. How many such certificates are issued for each boat, and to whom are they given?

4. A schoolroom has been closed on account of infectious disease amongst the pupils. What directions would you give as to the disinfection and cleansing of the room?

5. A contaminated water supply forms temporarily the sole supply of a small hamlet. Discuss the relative merits and practicability of the different means for making this water fit to drink.

6. Give the comparative advantages and disadvantages of a "combined" and a "separate" scheme of sewerage.

7. Of what materials may soil pipes and ventilating pipes be made? State the advantages and disadvantages of each.

8. What are the principal points to be observed in the laying of a house drain where it passes under the house?

The Candidates were examined vivâ voce *on the 8th.*

Inspector of Nuisances.—Bradford, June 28th and 29th, 1901.

1. What quantities of the following materials should be purchased under the Sale of Food and Drugs Acts, in order that the one-third part would be sufficient for the purposes of analysis:—Beer, butter, milk of sulphur, wheatflour, gin, olive oil?

2. What is the value of the indications given by the lactometer? State the fallacies to be guarded against in its use, and also the amount in bulk of cream a good milk should contain.

3. What cubic space and floor space do you consider necessary for each occupant of a bedroom? What legal enactments exist as to space required per head? Give any other regulations you may know of, other than legal enactments, as to floor space and cubic space.

4. In what form, by what method, and in what strength would you apply the following disinfectants in the disinfection of rooms:—Corrosive sublimate, carbolic acid, chloride of lime, formalin and sulphur?

5. Suggest a list of items for inquiry after receipt of a notification of a case of Enteric Fever.

6. Describe the methods usually adopted in sinking and forming shallow wells.

7. Explain the causes of ventilation by natural forces, and describe two methods of introducing fresh air and extracting vitiated air from a room.

8. Sketch *diagrammatically* a wash-out, wash-down, siphonic, and valve closet; and state briefly the advantages and disadvantages of each.

The Candidates were examined vivâ voce *on the 29th.*

Inspectors of Meat and Other Foods.—London, May 3rd and 4th, 1901.

1. State the legal provisions for dealing with unsound meat, and the procedure to be adopted by an Inspector.

2. Describe briefly the life-history of the parasites known as Cysticercus Cellulosæ and Flukes.

3. Describe the symptoms of actinomycosis and tuberculosis in a cow, and the appearances after death by which you could distinguish between the two diseases.

4. Describe the distinctive features of the liver, spleen and kidney of an ox, of a horse, of a sheep, and of a pig.

5. Distinguish between the following joints of a plain bull:

(*a*) Ribs;
(*b*) Sirloin;
(*c*) Round;

and the corresponding joints of a horse; stating any difference in the respective tissues and bones which would guide you in your opinion.

6. Describe the appearance of a healthy, as contrasted with an unhealthy, lymphatic gland. Where would you look for tuberculous lymphatic glands in a stripped carcase?

7. Describe the appearance and other characters of wholesome beef, veal, pork, and mutton.

8. What are the appearances of fish kept for some time in a refrigerator, as contrasted with fish kept in a shop or market for twenty-four hours at summer heat?

9. Describe the provisions necessary for the lighting, ventilation, water supply, and drainage of a well-constructed cowshed.

10. State the proper methods to be observed in the disposal of blood, offal, and other débris from a slaughter-house, so as to minimise possible nuisance.

The Candidates were examined vivâ voce *on the 4th.*

FORTHCOMING MEETINGS.

CONFERENCE ON WATER SUPPLIES AND RIVER POLLUTION.

The question of Water Supplies and River Pollution being of such importance, and at the present time receiving so much consideration from both Urban and Rural Sanitary Authorities, the Council of the Sanitary Institute have, with a view to advancing the consideration of the subject, arranged for a Conference to be held in London at St. Andrew's Hall, Newman Street, W., on October 16th and 17th.

It is proposed to treat the subject in its widest sense and to discuss: Sources of Supply and Watershed Areas, Storage, Town and Village Supplies, Filtration, Purification and Sterilisation, Distribution Appliances (Filters, Taps, Cisterns, &c.), and Prevention of River Pollution.

In connection with the Conference an Exhibition of Models and latest Appliances used in the Distribution and Purification of Water, will be arranged in St. Andrew's Hall. Silver and Bronze Medals will be awarded.

LOAN COLLECTION.—The Council will be pleased to receive any Drawings or Photographs of Works and Apparatus, also Specimens of any Special Samples or Conditions of Water and Statistical Records likely to be of interest to the delegates and others. In regard to Exhibits thus sent on loan the Committee will pay the carriage, if desired, and undertake to repack and return all such Exhibits free of cost.

Visits will be made to Water undertakings in and around London which, it is hoped, will prove of especial interest to those who are dealing with this question.

As the subject is one so closely affecting the health of the community and the work of Sanitary Authorities, the Council have invited the Authorities to send delegates to attend the meetings. Many have already appointed delegates, and it is expected a large number will attend.

CALENDAR, JULY TO OCTOBER, 1901.

As far as at present arranged.

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Special Purposes Committee	Third Monday at 5 p.m.
Finance Committee	Second Wednesday at 4.30 p.m.
Exhibition Committee	First Monday at 5 p.m.
Congress and Editing Committee	Second Monday at 5 p.m.
Museum and Library Committee	Fourth Monday at 5 p.m.
Examination Committee	Fourth Thursday in April, 5 p.m.
Parliamentary Committee	As occasion requires.
Rivers Pollution Committee	
Meat Inspectors Exam. Committee	

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 2 p.m. on Saturday.

Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.

JULY.

12 F. Examinations in Practical Sanitary Science and for Inspectors of
13 S. Nuisances, Liverpool.
19 F.
20 S. Examination for Inspectors of Meat and other Foods, Liverpool.
25 Th. Reception of Members of the British Congress on Tuberculosis, at 4 p.m.
26 F. Examination in Practical Sanitary Science and for Inspectors of
27 S. Nuisances, Cardiff.

SEPTEMBER.

2 M. Lecture to Sanitary Officers at 7 p.m. Mechanical Physics; Laws of Motion, Hydraulics, &c., by E. J. Steegmann, M.B., D.P.H., Assistant Lecturer on Public Health, St. Mary's Hospital.
4 W. Lecture to Sanitary Officers at 7 p.m. Natural Forces; Light, Heat, Electricity; Chemistry, by E. J. Steegmann, M.B., D.P.H.
6 F. Lecture to Sanitary Officers at 7 p.m. The Atmosphere; Pressure and Composition; Air; Combustion and Respiration, by E. J. Steegmann, M.B., D.P.H.
7 S. Inspection and Demonstration, Morden Hall Farm, Morden, 3 p.m.
9 M. Lecture to Sanitary Officers at 7 p.m. Meteorology, by W. Marriott, F.R.MET.SOC.
11 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, A: Introductory Remarks, Public Health Acts—English, Scotch, Irish; other Statutes relating to Public Health; By-Laws (Models, etc.), Regulations, Orders, Memoranda, etc., by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.
11 W. Inspection and Demonstration.

13 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, B: Public Health London Act; Metropolis Local Management Acts; By-Laws and Regulations in Force in the Administrative County of London, by J. Priestley, B.A.,M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

14 S. Inspection and Demonstration at Southwark and Vauxhall Water Works, Hampton, about 3 p.m.

16 M. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, C: Factory and Workshop Acts (including Bakehouse Legislation) 1878–95, as they affect the Sanitary Inspector; Smoke Legislation, Food and Drugs Act, 1899, by J. Priestley, B.A.,M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

18 W. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector —General, A: Outdoor, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

18 W. Inspection and Demonstration at Disinfecting Works and Model Steam Laundry, St. John's Wharf, Fulham, at 3.30 p.m., conducted by W. G. Lacy.

20 F. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector —General, B: Indoor, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

21 S. Inspection and Demonstration at the Wimbledon Sewage Works, at 3 p.m., conducted by C. H. Cooper, M.I.C.E., Surveyor to the Urban District Council.

24 Tu. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector —C: Offensive Trades and Trade Nuisances, &c., by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

25 W. Demonstration of Book-keeping as carried out in a Sanitary Inspector's Office, in the Parkes Museum, at 7 p.m., by Albert Taylor, Sanitary Inspector, Westminster.

26 Th. Lecture to Sanitary Officers at 7 p.m. Infectious Diseases, by Henry R. Kenwood, M.B., D.P.H., F.C.S., Asst. Professor of Hygiene, University College, Med. Officer of Health, Stoke Newington.

27 F. Inspection and Demonstration at Knight and Sons' Soap Works, Silvertown, at 3 p.m.

27 F. Lecture to Sanitary Officers at 7 p.m. Methods of Disinfection, by Henry R. Kenwood, M.B., D.P.H., F.C.S.

28 S. Inspection and Demonstration at Richmond Main Sewerage Purification Works, Kew Gardens, at 3 p.m.

OCTOBER.

1 Tu. Lecture to Sanitary Officers at 7 p.m. Water: Composition, Pollution, and Purification, by Henry R. Kenwood, M.B., D.P.H., F.C.S.

2 W. Inspection and Demonstration at Lambeth Disinfecting Station, Wanless Road, Loughborough Junction, S.E., at 3 p.m.

2 W. Lecture to Sanitary Officers at 7 p.m. Elementary Statistics, by Henry R. Kenwood, M.B., D.P.H., F.C.S.

4 F. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work, by J. Wright Clarke.

5 S. Lecture to School Teachers at Bedford College. General Diseases and Conditions incidental to School Life: their Causes and Effects, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

5 S. Inspection and Demonstration at Ealing Sewage and Destructor Works, at 2.15 p.m., conducted by C. Jones, M.INST.C.E., Borough Engineer and Surveyor.

7 M. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.R.I.B.A.

8 Tu. Lecture to Sanitary Officers at 7 p.m. Sanitary Building Construction and Planning; Soil and Local Physical Conditions, by Prof. R. Elsey Smith, A.R.I.B.A.

9 W Inspection and Demonstration at
10 Th. Lecture to Sanitary Officers at 7 p.m. Ventilation, Lighting, and Warming, by W. Spinks, ASSOC.M.INST.C.E.
11 F. Lecture to Sanitary Officers at 7 p.m. Calculations, Measurements, and Plans and Sections, by W. Spinks, ASSOC.M.INST.C.E.
12 S. Lecture to School Teachers at Bedford College. Infectious Diseases: their Nature and History, and Means of Prevention—Tuberculosis, Diphtheria, Scarlet Fever, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.
16 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Appliances, by W. Spinks, ASSOC.M.INST.C.E.
16 W. **Conference on Water Supplies and River Pollution, and Exhibition of Appliances.**
17 Th. ,, ,, ,, ,, ,, ,,
17 Th. Lecture to Sanitary Officers at 7 p.m. House Drainage, by W. Spinks, ASSOC.M.INST.C.E.
18 F. **Exhibition of Water Supply Fittings and Appliances.**
19 S. Lecture to School Teachers at Bedford College. Infectious Diseases—Chicken-pox, Measles, Whooping-cough, Mumps, Ophthalmia, Small-pox, etc., by W. C. C. Pakes, D.P.H.CAMB., F.C.S.
22 Tu. Lecture to Sanitary Officers at 7 p.m. Water Supply, Sources of Supply and Distribution, by Prof. Henry Robinson, M.INST.C.E.
23 W. Inspection and Demonstration at the L.C.C. Municipal Lodging House, Parker Street, Drury Lane, at 3 p.m.
24 Th. Lecture to Sanitary Officers at 7 p.m. Sewerage, by Prof. Henry Robinson, M.INST.C.E.
26 S. Lecture to School Teachers at Bedford College. Law and Procedure relating to Infectious Diseases, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.
29 Tu. Lecture to Sanitary Officers at 7 p.m. Sewage Disposal, by Prof. Henry Robinson, M.INST.C.E.
31 Th. Lecture to Sanitary Officers at 7 p.m. Scavenging, Disposal of House Refuse, by Prof. Henry Robinson, M.INST.C.E.

FELLOWS, MEMBERS, & ASSOCIATES ELECTED.

APRIL TO JUNE, 1901.

(*A complete list can be had on application.*)

FELLOWS.

Reg. No.	Date of Election.	
1345	1901. May.	EYRE, John William Henry, M.D., M.R.C.S., L.R.C.P., D.P.H., *Charing Cross Hospital Medical School, W.C.*
1017	1901. Apr.	FERGUSSON, James Hugh, F.R.C.S.I., L.R.C.P., D.P.H., 1, *Columbia Terrace, Waterside, Londonderry.*
831	1901. May.	HILL, Thomas Eustace, M.B., C.M., B.SC.(PUB. HEALTH) EDIN., F.I.C., *Shire Hall, Durham.*

MEMBERS.

* Passed Examination for Practical Sanitary Science.

‡ Passed Examination for Inspector of Nuisances.

M Marked thus have passed the Examination of the Institute for Inspectors of Meat and Other Foods.

Reg. No.	Date of Election.	
1490	1901. May.	Adams, P. Targett, D.P.H., M.R.C.S., L.S.A., *Assistant Medical Officer, General Post Office, E.C.*
4500	1901. June.	Allison, John, M.D., D.P.H., C.M., F.R.C.S.EDIN., *Fuller House, Kettering.*
1486	1901. Apr.	*Andrew, Joseph Shimeld, *Beaconsfield, Swansea.*
1491	1901. May.	Burman, James Wilkie, M.D.EDIN., L.R.C.S., D.P.H., *Kennett House, Ramsbury, via Hungerford.*
1492	1901. May.	Clark, Max, A.R.I.B.A., 9, *Queen Square, Bloomsbury.*
1493	1901. May.	Coates, Harold, M.B., CH.B., D.P.H., 38, *Pitt Street, Oldham.*
1501	1901. June.	Disney, George William, ASSOC.M.INST.C.E., *Mugabberpore, Bengal.*
1487	1901. Apr.	Evans, W. Arnold, *Medical Officer of Health, Town Hall, Bradford.*
1494	1901. May.	*Fellows, Thomas Edgar, *Engineer and Surveyor, Willenhall.*
1502	1901. June.	*Gray, Kenneth, 20, *Danvers St., Chelsea, S.W.*
1495	1901. May.	Karlson, August, *Town Engineer, Pretoria.*
1503	1901. June.	*Marie, Carolus, 11, *Jemmapes Street, Port Louis, Mauritius.*
1504	1901. June.	‡Marks, Charles William, *Brooklands, Wootton, I. W.*
1505	1901. June.	*Mason, Arnold Stuart, 199, *Lee Road, Wolverhampton.*
1488	1901. Apr.	M‡Miller, John Edward, M.R.C.V.S., *Patrington, Hull.*
1496	1901. May.	*Naz, Joseph Lois, ASSOC.M.INST.C.E., *Mauritius.*
1506	1901. June.	Price, Matthew Burn, *Architect and Civil Engineer, Pietermaritzburg.*
1489	1901. Apr.	Rumsby, E. J., M.INST.C.E., 18, *Springfield Road, Wimbledon, S.W.*
1497	1901. May.	Settle, James Ainsworth, ASSOC.M.INST.C.E., *Borough Engineer, Heywood.*
1507	1901. June.	*Smith, William, *Municipal Technical Schools, Birmingham.*
1498	1901. May.	Soffiantini, Prof. Joseph, M.D., *Piazzetti di Via Freno* 3, *Milan.*
1508	1901. June.	Stow, John Freebairn, *Council Offices, Uxbridge.*
1509	1901. June.	Stuart, William, B.E., *Urban Surveyor, Strabane, Tyrone.*
1499	1901. May.	‡Watmore, James, *Hillview, Alexander Road, Aldershot.*
1510	1901. June.	*Wood, Robert, 6, *Mount Street, W.*

ASSOCIATES.

‡ Passed Examination for Inspectors of Nuisances.

M Marked thus have passed the Examination of the Institute for Inspectors of Meat and Other Foods.

Reg. No. Date of Election.

2285 1901. May. ‡Abson, Herbert, *Lincoln St., Balne Lane, Wakefield.*
2306 1901. June. ‡Ashcroft, Henry, *Council Cottage, Earlestown.*
2307 1901. June. ‡Austen, William Alexander, 26, *Albert Rd., Dover.*
2286 1901. May. ‡Barclay, William Kirk, *High Street, Cowdenbeath.*
2308 1901. June. ‡Barnes, George Frederick, *High Street, Thorpe-le-Soken.*
2323 1901. June. ‡Beal, Samuel Percy, 131, *Oxford Road, Reading.*
2287 1901. May. ‡Berry, George Frederick, 72, *Gerrard Street, Lozells, Birmingham.*
2309 1901. June. ‡Bocock, Sidney Thomas, 3, *Milton Road, Brentwood.*
2310 1901. June. ‡Bonham, Arthur Ernest, *High Street, St. Neots.*
2311 1901. June. ‡Burgess, John James, 30, *Edward Street, Barking Road, West Ham.*
2312 1901. June. ‡Canham, Charles Edward Lewis, 23, *Montpelier Road, Peckham, S.E.*
2275 1901. Apr. ‡Carter, Edward, *Mount Pleasant, E. Budleigh, Budleigh Salterton.*
2288 1901. May. ‡Cartlidge, Frank, 13, *Cyprus Road, Southport.*
2289 1901. May. ‡Christie, George, 32, *Mid Stocket Road, Aberdeen.*
2290 1901. May. ‡Clark, Hugh, 172, *Main Street, Kilwinning, N B.*
2324 1901. June. ‡Clarke, Robert Ephraim, 21, *Richmond Rd., Lincoln.*
2325 1901. June. ‡Clements, John Stephen, 23, *Arlesford Road, Stockwell, S. W.*
2313 1901. June. Cook, Arthur, 115, *Garnett Street, Barrowford, Nelson.*
2314 1901. June. ‡Crawshaw, Lewis, 14, *Chandler Avenue, Beckton Road, Barking Road, E.*
2276 1901. Apr. M‡Crotty, James, 31, *Stavordale Road, Drayton Park, Highbury.*
2277 1901. Apr. ‡Curtis, Walter, 34, *Bean Street, Anlaby Road, Hull.*
2295 1901. May. Dobson, William Henry, *Sanitary Inspector, Claremont Council, South Africa.*
2332 1901. June. ‡Fanner, William, 78, *Montgomerie Road, Southsea.*
2291 1901. May. ‡Fletcher, James, *Donaldson Street, Kirkintilloch.*
2326 1901. June. ‡Fulker, Frederick Francis, *Lynton Villa,* 23, *Benson Road, Croydon.*
2327 1901. June. ‡Grontage, Richard Henry Latham, *Five Ways, Cannock, Staffs.*
2315 1901. June. ‡Hartfree, George Bertram, *Park Street, Camberley.*
2316 1901. June. ‡Hoc, Miss Mary Françoise, 75, *Hereford Road, Bayswater.*
2328 1901. June. ‡Hunt, Harold Charles, 4, *Waterloo Road, Winton, Bournemouth.*
2292 1901. May. ‡Hunter, Harry, *Ormonde House,* 4, *Arthur Street, Gloucester.*

Reg. No.	Date of Election.	
2293	1901. May.	‡Inskip, Frederick Daniel, *Rural District Council, Dorchester.*
2278	1901. Apr.	‡Jackling, Ernest, *Health Department, Guildhall, Rochester.*
2317	1901. June.	‡Kennan, John Joseph, *Leamington.*
2318	1901. June.	‡Lane, William George, 7, *Addison Road, Bromley*
2279	1901. Apr.	‡Ley, Edward John, 1, *Stanley Road, Oldfield Park, Bath.*
2294	1901. May.	‡Logie, Thomas Samson, 16, *Inglefield Street, Govanhill, Glasgow.*
2329	1901. June.	‡Lucas, Alfred William, 74, *Glengall Road, Kilburn, N.W.*
2330	1901. June.	‡Martin, Horace, 48, *Holland Street, Maidstone.*
2319	1901. June.	‡Matthews, Alfred, 32, *Canterbury Road, Brixton.*
2296	1901. May.	‡Miles, Bernard Rees, *Ribbesford Terrace, South Street, Leominster.*
2297	1901. May.	‡Miller, William, 227, *Moorhey Street, Glodwich, Oldham.*
2298	1901. May.	‡Mitchener, William Edward, *Council House, East Hill, Wandsworth.*
2331	1901. June.	‡Morley, Thomas L., 28, *Hemberton Road, Clapham, S.W.*
2320	1901. June.	‡Phillips, Thomas Edwin, *Sea Side, Birchington-on-Sea.*
2299	1901. May.	‡Rabson, Miss Florence Margaret, *District Nurses' Home, Howards Road, Plaistow, E.*
2305	1901. May.	‡Ramsay, Hugh, 135, *Moore Street, Glasgow.*
2300	1901. May.	‡Ramsey, Charles Henry, 22, *New Cartergate, Grimsby.*
2333	1901. June.	‡Raitt, Thomas Ballantyne, *Craigo, Montrose, N.B.*
2280	1901. Apr.	‡Shrives, Amos D., *Drayton, Rectory Road, Farnborough.*
2281	1901. Apr.	Spiller, Miss Lucy L., *Elm House, Cressington Park, Liverpool.*
2321	1901. June.	‡Squirrell, William James, 50, *Linton Road, Barking Town.*
2301	1901. May.	‡Tuach, John, *The Grange, Inverness.*
2302	1901. May.	‡Vaughan, Miss Alice, 294, *Wheeler Street, Lozells, Birmingham.*
2322	1901. June.	‡Whitehead, John Edward, 76, *North Street, Chichester.*
2303	1901. May.	‡Whitwell, Edward, 1, *Garden Road, Kendal.*
2334	1901. June.	‡Wickham, Robert, *Wilton Cottage, York Road, Reigate.*
2282	1901. Apr.	‡Williams, Daniel Edwin, 1, *Durham Place, Plymouth.*
2335	1901. June.	‡Windmill, Daniel William, *Compounder's House, Wandsworth Prison.*
2304	1901. May.	‡Yeatman, Walter, *Bromsgrove Road, Webheath, Redditch.*

EXHIBITS ADDED TO THE MUSEUM,

FROM APRIL TO JULY, 1901.

Air Space Outside Houses; Detached, Semi-detached, and in Streets. *Diagram.*

Bones of Horse and Bones of Cow for comparison. *J. King, M.R.C.V.S.*

Building Materials. Diagram showing Composition of Mortar, Concrete, and Plaster.

Geological Map of London. Coloured. *G. W. Bacon & Co.*

Liver Fluke Development and Diagram.

Old Lead Stink Trap. An illustration of an ingenious but defective Bell Trap, worked into a Soil Pipe for the admission of Rain Water.

Oxidised Iron Pipe, showing evidence of peculiar disintegration. *Matt. Hall & Co.*

Poisons and their antidotes. *Diagram.*

Sockets for Lead Waste Pipes, both fixed and movable to allow for expansion and contraction. *Bonsor & Co.*

Water Motor. "The Chicago Top," suitable for a pressure of about 30 lbs. and for light work. *J. Griffin & Co.*

CONTRIBUTIONS AND ADDITIONS TO LIBRARY

April to June, 1901.

⁂ *For publication of Societies and Institutions, &c., see under "Academies."*

ACADEMIES (American).

Columbus. *American Public Health Association.* Reports and Papers, Vol. XXVI. 380 pp., 8vo. Columbus, Ohio, 1901. *The Association.*

Philadelphia. Transactions of the College of Physicians. Third Series, Vol. XXII. 278 pp., 8vo. Philadelphia, 1900. *The College.*

——— *American Climatological Association.* Transactions. Vol. XVI., for the the year 1900. 210 pp., 8vo. Philadelphia, 1900. *The Association.*

Winnipeg. *Historical and Scientific Society of Manitoba.* Annual Report for the year 1900. 23 pp.

——— Notes and Observations of Travels on the Athabasca and Slave Lake Regions in 1899, by W. J. McLean. 7 pp.

——— The Early Icelandic Settlements in Canada, by M. S. Jonasson. 15 pp.

——— Early Red River Culture, by Mrs. G. Bryce. 16 pp., 8vo. Winnipeg. *The Society.*

ACADEMIES (British).

Hereford. *Woolhopes Naturalists' Field Club.* Transactions, 1898–99. 264 pp., 8vo. Hereford, 1900. *H. C. Moore, M.R.C.S.*

London. *The Cremation Society of England.* Transactions, No. XIV. 30 pp., 8vo. London, 1901. *The Society.*

——— *Society of Engineers.* Transactions for 1900, and General Index 1857 to 1900. 310 pp.., 8vo. London, 1901. *The Society.*

——— *The Institution of Civil Engineers.* Minutes of Proceedings of. Vol. CXLIII., 1900—1901, Part I. 463 pp., 8vo. London, 1901. *The Institution.*

——— *Devon and Cornwall Association for the Prevention of Tuberculosis.* Report of the Executive and Sanatorium Committees. 20 pp., 8vo. Plymouth, 1901. *The Association.*

——— *Incorporated Association of Municipal & County Engineers.* Proceedings. Vol. XXVI., 1899–1900. 253 pp., 8vo. London, 1900. *The Association.*

——— *St. Thomas's Hospital.* Reports. New Series, Vol. XXVIII. 657 pp. pp., 8vo. London, 1901. *The Secretary.*

South Wales and Monmouthshire. Calendar of The University College of 1900–01. 451 pp., 8vo. Cardiff, 1900. *The Registrar.*

Agriculture, *Board of.* Census, 1901—Agricultural Classification. 4 pp., 8vo. 1901. *The Board.*

Army Medical Department. Report for the year 1899, with Appendix. Vol. XLI. 517 pp., 8vo. London, 1901. *Director-General J. Jameson, C.B.*

Berlin. *Kaiserlichen Gesundheitsamt.* Parcel of Reports and Papers from Paris Exposition, 1900. *The Board.*

Berne. Rapport du Bureau Fédéral des Assurances sur les entreprises privées en matière d'assurances en Suisse en 1899. 135 pp., 4to. Berne, 1901. *The Bureau.*

Board of Agriculture. Agricultural Returns of Great Britain, British Possessions, and Foreign Countries, 1900. 259 pp., 8vo. London, 1901. *The Board.*

Briggs, *Warren R.* Modern American School Buildings. 412 pp., 8vo. New York, 1899. *Purchased.*

Corfield, *Prof. W. H., F.R.C.P.* Sanitary Knowledge in 1800. 24 pp., 8vo. London, 1901. *The Author.*

Georgetown (Demerara). Town Superintendent's Annual Report, 1900. 24 pp., fcp. Georgetown, 1901. *Luke M. Hill, M.Inst.C.E.*

Greenwood, *Mrs. F. J.* Is the High Infantile Death-rate due to the occupation of Married Women? 12 pp., 8vo. Reprint from "Englishwoman's Review." *Bale, Sons & Danielsson, Ltd., publishers.*

Hamilton (Canada). Annual Report of the Manager of Water Works and Chief Engineer of Sewage Disposal Works, for 1900. 48 pp., 8vo. Hamilton, 1900.

Hinsdale, *Guy, M.D.* Tuberculosis in Pennsylvania. 14 pp., 8vo. Philadelphia, 1900. *The Author.*

Hope, *Prof. E. W., M.D.*, and **Browne,** *E. A., F.R.C.S.E.* A Manual of School Hygiene, written for the guidance of Teachers in Day Schools. 207 pp., 8vo. Cambridge, 1901.

Illinois, *State of.* First and Second Biennial Reports of the Board of Examiners of Architects, 1899 and 1890. 52 and 58 pp., 8vo. Chicago, 1899 and 1901. *The Board.*

Kemna, *Ad.* Les Eaux Potables. 31 pp., 8vo. Extrait de la "Belgique Medicale." *The Author.*

Local Government Board. Twenty-ninth Annual Report, 1899—1900. Supplement, containing the Report of the Medical Officer. 649 pp., 8vo. London, 1901.

——— Dr. S. W. Wheaton's Report on the Sanitary Condition of the Bishop Auckland Urban District, and on Sanitary Administration by the Urban District Council. 9 pp., fcp. London, 1901.

——— Dr. S. Monckton Copeman's Report on the General Sanitary Circumstances and General Administration of the Borough of Boston. 16 pp., fcp. London, 1901. *W. H. Power, F.R.S.*

——— Extract from Annual Report, 1899—1900, Sale of Food and Drugs Acts. 27 pp., 8vo. London, 1900. *Prof. W. H. Corfield, M.A., M.D.*

——— Dr. E. Petronell Manby's Report upon an outbreak of Typhus Fever in the Urban District of Hexham. 9 pp., fcap. London, 1901. *W. H. Power, F.R.S.*

McMillan, *Margaret.* Early Childhood. 211 pp., 8vo. London, 1900. *The Author.*

MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

Aberdeen (San. Insp.), 1900.	*Kenneth Cameron.*
Ashwell (Rural), 1900	*Bushell Anningson, M.D.*
Basford, R.D.C., 1900	*G. Bury Wray, M.R.C.S., D.P.H.*
Bath, 1900	*W. H. Symons, M.D.*
Bexhill, 1900	*O. Osborne, L.R.C.P.*
Birmingham, 1900	*Alfred Hill, M.D., F.R.S.E.*
Birmingham (Eng. and Surv.), 1900	*J. Price, M.Inst.C.E.*
Blackpool, 1900	*A. J. Anderson, M.A., M.B., D.P.H.*
Bournemouth, 1900	*Philip W. G. Nunn, L.R.C.P., M.R.C.S.*
Bridlington Boro' & R.S.A., 1900	*William A. Wetwan, M.R.C.S.*
Brighton, 1900	*Arthur Newsholme, M.D., D.P.H.*
——— (San. Insp. Rep.), 1900	*W. G. Cooper.*
Bucklow (Rural), Knutsford, Middlewich, Winsford and Biddulph, 1900	*T. W. H. Garstang, M.A., M.R.C.S., D.P.H.*
Cambridge, 1900	*Bushell Anningson, M.D.*
Carnarvonshire Combined Districts, 1900	*P. Fraser, M.D., B.Sc.*
Cheltenham, 1900	*J. H. Garrett, M.D., D.P.H.*
Chesterton, 1900	*Bushell Anningson, M.D.*
——— **Cambs. (Rural),** 1900	,, ,, ,,
Chingford, 1900	*Shephard T. Taylor, M.B.*

Clacton, 1900	*J. W. Cook, M.D.*
Coventry, 1900	*E. Hugh Snell, M.D., F.R.S.E.*
Darwen, 1900	*F. G. Haworth, M.B., D.P.H.*
Eccles, 1900	*J. H. Crocker, M.D., D.P.H.*
Ely (**Rural**), 1900	*Bushell Anningson, M.D.*
Exeter, 1900	*J. Woodman, M.D.*
Erdington U.D.C., 1900	*Prof. A. Bostock Hill, M.D., D.P.H.*
Finchley, 1900	*H. R. Kenwood, M.B.*
Gibraltar, 1900	*Maj. H. P. Elkington, M.R.C.S., D.P.H.*
Handsworth, 1900	*J. Richmond, M.A., M.B., D.P.H.*
Hereford, 1899, 1900	*H. C. Moore, M.R.C.S.*
Huddersfield, 1900	*E. G. Annis, M.R.C.S., D.P.H.*
Hunslet (**Rural**), 1900	*J. Buck.*
Islington, 1st, 2nd, and 3rd quarter, 1900	*Prof. W. H. Corfield. M.A., M.D.*
Limehouse, 1900	*D. L. Thomas, M.O.H.*
London (**Port of**), 1900	*W. Collingridge, M.A., M.D.*
Lytham U.D.C., 1900	*J. Cecil Fisher, M.B.*
Melbourn (**Rural**), 1900	*Bushell Anningson, M.D.*
Mile End Old Town, 1900	*T. Taylor, M.O.H.*
Newcastle-upon-Tyne, 1900	*Henry E. Armstrong, D.Hy.*
Newport P.S.A., 1900	*J. Howard Jones, D.Sc., M.D.*
Nuneaton & Chilvers Cotton U.D.C., 1900	*E. P. Cock, M.R.C.S.*
Paignton U.D.C., 1900	*C. W. Vickers, D.P.H.*
——— (San. Insp. Rep.)	*J. Crathorn.*
Pudsey, 1900	*W. L. Hunter, M.D., D.P.H.*
Reigate (San. Insp. Rep.)	*J. P. Humphery.*
Rhondda, 1900	*H. Jones, D.P.H.*
River Tyne P.S.A., 1900	*W. E. Harker, M.D., B.Hy.*
Royston, 1900	*Bushell Anningson, M.D.*
St. Ives (**Rural**), 1900	” ” ”
St. Leonard, Shoreditch, 1899	*Prof. W. H. Corfield, M.A., M.D.*
St. Margaret and St. John, Westminster, 1900	*J. Norton, M.D., D.P.H.*
Scarborough, 1901	*J. Bustiman.*
Shanghai, 1900	*A. Stanley, M.D., D.P.H.*
Sheffield, 1899	*Prof. W. H. Corfield, M.A., M.D.*
Southport, 1900	*J. J. Weaver, M.R.C.S., D.P.H.*
Stalybridge, 1900	*F. J. Roberts-Dudley.*
Stoke Newington, 1900	*H. Kenwood, M.B., D.P.H.*
——— (San. Insp.), 1900	*H. Kenwood, M.B., D.P.H.*
Strand, 1900	*F. J. Allan, M.D., D.P.H.*
Sutton Coldfield, 1900	*Prof. A. Bostock Hill, M.D., D.PH.*
Swavesey (**Rural**), 1900	*Bushell Anningson, M.D.*
Tunbridge Wells, 1900	*Wm. Stamford, L.R.C.P*
West Bromwich, 1900	*Herbert Manley, M.A., M.B., D.P.H.*
West Lancashire R.D.C., 1900	*G. E. Scholefield, M.D., D.P.H.*
West Sussex, 1899–1900	*C. Kelly, M.D., F.R.C.P.*
Wigan, 1900	*William Berry, F.R.C.S.I., D.P..H.*

Middleton, *R. E., M.Inst.C.E.* On the Future of the London Water Supply. 124 pp., 8vo. Parts III., IV. and V. of Vol. XXXIII. of Transactions of the Surveyors' Institution, 1901. *The Author.*

New South Wales. *Department of Public Health.* Report on the outbreak of Plague at Sydney, 1900, by the Chief Medical Officer to the Government. 81 pp., fcp. Sydney. *J. Ashburton Thompson, M.D.*

Ontario. *Legislative Assembly of.* Report of Births, Marriages, and Deaths, Ontario, 1899. 243 pp. 8vo. Toronto, 1901. *The Assembly.*

Ontario Provincial Board of Health. Eighteenth Annual Report, 1899. 107 pp., 8vo. Toronto, 1900. *Prof. W. H. Corfield, M.A., M.D.*

Ottawa. *Laboratory of Inland Revenue Department.* Bulletin No. 74. 13 pp., 8vo. Ottawa, 1901. *T. Macfarlane.*

Paris. *Annales des Ponts et Chaussées.* 400 pp., 8vo. Paris, 1900.

——— *Departement de la Seine.* Notes à l'appui du compte des dépenses de l'exercice, 1899. 268 pp., 4to. Paris, 1900. *The Department.*

Parry, *W. Kaye, M.Inst.C.E., F.R.I.B.A.* Office Management. A Handbook for Architects and Civil Engineers. 187 pp., 8vo. London and New York, 1901. *The Author.*

Registrar General (England). Sixty-second Annual Report of, Births, Deaths, and Marriages in, 1899. 308 pp., 8vo. London. 1901. *The Registrar General,*

Rockhampton, Queensland. Report on a new water supply scheme. 14 pp., 8vo. Rockhampton, 1901. *H. E. Bellamy.*

Southport. *Fernley Observatory.* Report and Results of Observations for the Year 1900, by Joseph Baxendell, F.R.Met.Soc. 22 pp., 4to. Southport, 1901. *The Author.*

Stockman, *Stewart, M.R.C.V.S.* A Practical Guide to Meat Inspection—(Walley) 4th Edition. 295 pp., 8vo. Edinburgh and London, 1901. *Y. J. Pentland (Publisher).*

Suisse. Mouvement de la population pendant l'année 1899. 32 pp., 4to. Bern, 1901. *Bureau de Statistique.*

Sykes, *J. F. J., M.D., D.Sc.* The Results of State, Municipal, and organised Private action on the Housing of the Working Classes in London and other large cities in the United Kingdom, 76 pp., 8vo. Extract from Journal of Royal Statistical Society, Vol. LXIV., Part II., 1901. *The Author.*

Thompson, *Sir Henry, Bart., F.R.C.S.* Modern Cremation. 4th Edition. 192 pp., 8vo. London, 1891. *The Author.*

Thresh, *John C., M.D.* Report on the Water Supply of Essex. 166 pp., 8vo. Chelmsford, 1901. *The Author.*

Ventilation Natural and Artificial Methods of Ventilation. 82 pp., 8vo. London, 1899. *R. Boyle & Son.*

Waldo, *F. J., M.A., M.D.* Golden Rules of Hygiene. 69 pp., 16mo. Bristol and London, 1901. Wright and Co., and Simpkin, Marshall and Co. *The Publishers.*

Washington. Report of the Commissioner of Education for the year 1898–99, 2nd volume. 2518 pp. 8vo. Washington, 1900.
Commissioner of Education.

West Riding C.C. Report of County M.O.H. on the Sanitary condition of the Goole Union. 40 pp., fcp. Wakefield, 1901.
J. R. Kaye, M.B.

In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter.

Allan, *C. E.,* and *F. J.* The Housing of the Working Classes Acts. Second Edition.

Andrews, *O. W.* Handbook of Public Health, Laboratory Work and Food Inspection.

Bartlett, *J.* Quantities, Vol. I., Road Making and Sewer.

Blackoder, *A. D., M.D.* On the Sterilisation of Milk: its Advantages and Limitations.

Chamberlain, *A. F., M.A., Ph.D.* The Child: a Study in the Evolution of Man.

Fischer, *Louis, M.D.* Infant Feeding in Health and Disease.

Goodrich, *W. F.* The Economical Disposal of Town Refuse.

Greenwood, *M., M.D., LL.B.* The Law Relating to Poor Law, Medical Officers, and Vaccination.

Haig, *A., M.A., M.D.* Diet and Food.

Harrington, *Charles, M.D.* Practical Hygiene.

Hutchison, *R., M.D.* Food and Principles of Dietetics.

Macindoe, *A., M.D., D.P.H.* Sidmouth as a Health Resort.

Moore, *Col. E. S., R.E.* Sanitary Engineering. Second Edition.

Oppenheim, *Dr. R.* The Care of the Child in Health.

Rideal, *S., D.Sc.* Sewage and the Bacterial Purification of Sewage.

Salmon, *Dr. D. E.* The Inspection of Meats for Animal Parasites.

Samways, *D. W., M.D.* Mentone as a Health and Pleasure Resort.

Schwarz, *Oscar, M.D.* Public Abattoirs and Cattle Markets, Translated from the German by G. T. Harrap and M. Douglas.

Shaw, *E. R.* School Hygiene.

Thresh, *J. C., M.D.,* and **Porter,** *E. A., M.D.* Diphtheria: Modern Views as to its Origin, Dissemination, Treatment, and Prevention.

Thomson, *Major G. S.,* and *Dr. J.* A Treatise on Plague.

Turneaure, *Prof. F. E.,* and **Russell,** *Prof. H. L., Ph.D.* Public Water Supplies, Requirements, Resources, and the Construction of Works.

Warner, *F., M.D.* The Nervous System of the Child, its Growth and Health in Education.

Volume XXII.—Part III.] [October, 1901.

SUPPLEMENT TO THE

JOURNAL

OF

THE SANITARY INSTITUTE.

CONFERENCE ON WATER SUPPLIES AND RIVER POLLUTION.

The question of Water Supplies and River Pollution being of such importance, and at the present time receiving so much consideration from both Urban and Rural Sanitary Authorities, the Council of the Sanitary Institute have, with a view to advancing the consideration of the subject, arranged for a Conference to be held in London at St. Andrew's Hall, Newman Street, W., on October 16th and 17th.

It is proposed to treat the subject in its widest sense and to discuss: Sources of Supply and Watershed Areas, Storage, Town and Village Supplies, Filtration, Purification and Sterilisation, Distribution Appliances (Filters, Taps, Cisterns, &c.), and Prevention of River Pollution.

In connection with the Conference an Exhibition of Models and latest Appliances used in the Distribution and Purification of Water, will be arranged in St. Andrew's Hall. Silver and Bronze Medals will be awarded.

LOAN COLLECTION.—The Council will be pleased to receive any Drawings or Photographs of Works and Apparatus, also Specimens of any Special Samples or Conditions of Water and Statistical Records likely to be of interest to the delegates and others. In regard to Exhibits thus sent on loan the Committee will pay the carriage, if desired, and undertake to repack and return all such Exhibits free of cost.

Visits will be made to Water undertakings in and around London which, it is hoped, will prove of especial interest to those who are dealing with this question.

As the subject is one so closely affecting the health of the community and the work of Sanitary Authorities, the Council have invited the Authorities to send delegates to attend the meetings. Many have already appointed delegates, and it is expected a large number will attend.

WEDNESDAY, OCTOBER 16th, 1901,

10 a.m. to 1 p.m.

PROGRAMME.

Sources of Supply and Watershed Areas, Storage, Town, and Village Supplies.

CHAIRMAN—SIR ALEXANDER R. BINNIE, M.INST.C.E.

Subjects for Discussion will be introduced by—

J. PARRY, M.Inst.C.E.: "Watershed Areas, the physical conditions and standard of purity to be desired, and the prevention of contamination."

E. C. SEATON, M.D., F.R.C.P.: "The protection of underground sources of Public Water Supply."

H. R. MILL, D.Sc., F.R.S.E.: "Rainfall and Population in relation to Water Supply."

A. GREENWOOD, M.D., D.P.H.: "The desirability for reports on the Water Supply of each county."

W. WILLIAMS, M.A., M.D., D.P.H.: "The Rivers of Glamorganshire, with remarks on the Rivers of adjacent counties."

J. C. THRESH, M.D., D.Sc.: "Water Supply to isolated Cottages and small groups of Cottages."

MISS C. COCHRANE: "The present inadequate Water Supply for villages and village schools."

Afternoon Visits.

NEW RIVER WATER COMPANY'S TESTING SHOPS.

By the courtesy of the Company a visit will be made to the Testing Shop, Clerkenwell, E.C.

EAST LONDON WATER WORKS, LEA BRIDGE, CLAPTON, N.E.

By the courtesy of the Engineer, W. B. BRYAN, M.Inst.C.E., a visit has been arranged to these Works.

The Delegates and Members will be conducted over the Works by the Engineer.

Conveyances will start from the Parkes Museum, Margaret Street, W., at 2 p.m.

THURSDAY, OCTOBER 17th, 1901,

10 a.m. to 12.30 p.m.

Water Filtration, Purification, and Sterilisation, Distribution Appliances (Filters, Taps, Cisterns, &c.), and Prevention of River Pollution.

CHAIRMAN—W. WHITAKER, B.A., F.R.S., F.G.S., ASSOC.INST.C.E.

Subjects for Discussion will be introduced by—

PROF. H. ROBINSON, M.Inst.C.E.: "Water Supply and River Pollution."

A. G. LEIGH: "The control of Weirs and Dams on Rivers in relation to River Pollution."

H. W. RUSSELL, (Berks C.C.): "Prevention of Pollution within the Thames Watershed, and Thames Water Supply and Storage."

H. R. KENWOOD, M.B., D.P.H., F.I.C.: "The Chemical Standard of Purity of Water Supplies."

S. RIDEAL, D.Sc., F.I.C.: "Sterilisation of Water."

FREDERICK VERNEY (Bucks C.C.): "The Commercial and Industrial value of Soft Water."

The Conference Papers will be printed and circulated to the Delegates. Any Member or Delegate wishing for copies can obtain them at the office about three days before the meeting, and in order to allow as much time as possible for discussion, they will be taken as read on the day of the Conference.

Afternoon Visits.

STAINES RESERVOIRS.

By the courtesy of the Engineers, W. HUNTER, M.Inst.C.E., and R. E. MIDDLETON, M.Inst.C.E., a visit has been arranged to these Works.

The Delegates and Members will be conducted over the Works by the Joint Engineers.

Train will leave Waterloo (N. Station), L. & S.W. Railway, for Staines at 1.10 p.m.

The INSTITUTE DINNER will be held, at 7.30 p.m., at the HOLBORN RESTAURANT. Members and Delegates wishing to attend can obtain Tickets and full particulars at the offices of the Institute.

EXHIBITION OF WATER SUPPLY FITTINGS

TO BE HELD IN

ST. ANDREW'S HALL,

Newman Street, Oxford Street, W.,

FROM

Wednesday, October 16th, to Friday, October 18th, 1901.

OPEN FROM 10 A.M. TO 6 P.M.

The Exhibition, held in connection with the Conference, will include Appliances, Specimens, Drawings, Models, and Apparatus relating to the Source, Storage, Examination, Pollution, Purification, Supply and Utilization of Water.

Silver and Bronze Medals will be awarded at the discretion of the Judges for approved Exhibits. A Classified List of all Awards is published by the Institute.

Loan Collection.—The Committee invite and will be pleased to receive any Drawings and Photographs of Works and Apparatus, also Specimens of any Special Samples or Conditions of Water and Statistical Records likely to be of interest to the delegates and others.

CLASSIFICATION OF EXHIBITS.

SOURCE.
- Geological Strata, and Water bearing soils.
- Well Sinking Apparatus.
- Well Boring Apparatus.
- Pumps and Rams.
- Watershed Areas.
- Rainfall.
- Divining.

STORAGE.
- Reservoirs.
- Tanks.
- Cisterns.

EXAMINATION.
- Analytical Methods.
- Sampling Vessels.
- Specimens of Good and Bad Water.
- Materials showing effects of Testing.
- Specimens of Impurities.

PURIFICATION.
- Domestic.
- Public.
- Rain Water Separation.
- Rain Water Filtration.
- Softening Processes.
- Sterilizing Apparatus.
- Distillation.

DISTRIBUTION.
- Pipes.
- Valves.
- Fittings.

WASTE PREVENTION AND DETECTION—
- Waste Preventors.
- Automatic Apparatus.
- Meters.
- Telephones, &c.

Hydraulics.—Hot Water Appliances. Motors. Machinery.

List of Sanitary Authorities appointing Delegates to the Conference.

Aberdeen.
Abram.
Anglesey C.C.
Ashton-in-Makerfield.
Barking.
Bath.
Battersea.
Bedfordshire C.C.
Berkshire C.C.
Berwick-upon-Tweed.
Bexley.
Birkenhead.
Blackburn.
Bollington.
Bolton.
Bradford.
Brentford.
Bridgwater.
Bucks C.C.
Camberwell.
Cambridge.
Carshalton.
Chelmsford.
Cheshire C.C.
Connahs Quay.
Crewe.
Criccieth.
Croydon.
Cumberland C.C.
Darenth Valley Main Sewerage Board.
Darfield.
Devon C.C.
Dover.
Eastbourne.
East Grinstead.
East Ham.
East Suffolk C.C.
East Sussex C.C.
Epsom.
Essex C.C.
Exeter.
Farnborough.
Finsbury.
Gloucestershire C.C.
Gravesend.
Gt. Yarmouth.
Greenwich.
Hackney.
Halifax.
Ham.
Hammersmith.
Hanwell.
Harwich.
Hastings.
Holyhead.
Hunts C.C.
Isle of Ely C.C.
Islington.
Kempston.
Kesteven C.C.
Kettering.
Knottingley.
Leadgate.
Leicestershire C.C.
Lewisham.
Leyton.
Lindsey C.C.
Liverpool.
Maidenhead.
Melksham.
Merioneth C.C.
Mersey & Irwell Joint Committee.
Middlesex C.C.
Newport Pagnell.
Newton-in-Makerfield.
Northampton
Northumberland C.C.
Nottingham C.C.
Penmaenmawr.
Penrith.
Poplar.
Reigate.
Ribble Joint Committee.
Richmond.
Richmond Main Sewerage Board.
Rickmansworth.
Rochester.
Royston.
Salop C.C.
St. Helens.
St. Marylebone.
St. Pancras.
Selby.
Shoreditch.
Soothill, Upper.
Southampton C.C.
Southwark.
Staffordshire C.C.
Stepney.
Stockport.
Stoke Newington.
Surrey C.C.
Swansea.
Tanfield.
Tipton.
Tiverton.
Tonbridge.
Tottenham.
Wandsworth.
Warrington.
Warwickshire C.C.
West Bromwich.
West Ham.
Westminster.
West Riding Yorks, Rivers Board.
Whitstable.
Wolverhampton.
Woolwich.

British Association of Waterworks Engineers.
Institution of Junior Engineers.
Incorporated Association of Municipal and County Engineers.

REVIEWS OF BOOKS.

MODERN AMERICAN SCHOOL BUILDINGS.*

The author's chief object is to expose the defects of many buildings erected and used as schools in America, and to raise the standard of school-buildings upon a basis of efficiency, convenience, cheerfulness, and sound sanitation.

This task is performed with a degree of thoroughness which is commendable; it is evidently the work of a practical architect who has carefully mastered the subject in detail, and can give adequate expression to his opinions. That he is dogmatic and occasionally egotistical may be expected and pardoned, perhaps, in gratitude for the side-lights which he throws upon the methods of obtaining commissions from committees. The chapter on *Superintendence and Ethics* contains some plain unvarnished truths rarely to be seen in print.

Apart from what may be termed the "business" portion, the book contains a number of accurate and suggestive facts relating to school designing, carefully arranged under separate heads,. and illustrated by numerous plans—which, by the way, would have been more interesting if the cardinal points had been put upon them.

Some of the author's special desires are:—To use continuous windows cut up by fairly stout splayed steel mullions; to arrange the floors in small enclosures or open recesses, either in the corridor or in the class-rooms; to place w.c's on the top story; to make class-rooms 13 feet high, with a floor-space of 17 feet to 21 feet per child; to warm and ventilate by hot air having a temperature of 67° at breathing level. He condemns wooden floors, and advocates steel and hollow ware construction, regards plaster as an abomination, and would abolish all furring, lathing, wainscoting, etc.

The book contains much that is is both interesting and useful to students in this country as well as in America, although many of the plans given are far from being perfect models from a sanitary standpoint.

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*By Warren Richard Briggs, F.A.I.A. New York: John Wiley & Sons; London: Chapman & Hall. 1899. 441 pp,, 8vo. Price 17s.

NOTES ON BOOKS AND PAPERS IN TRANSACTIONS.

"A Healthy Home," by Francis Vacher, F.R.C.S. 2nd Edition. 160 pp., 8vo. London, 1901. *The Sanitary Publishing Co.* Price 2s. 6d.

The outcome of lectures on Sanitary requirements of a modern Dwelling House and allied subjects, and to meet the demand for a small handbook giving the necessary particulars about a healthy house and how to maintain it so, the author seeks to impart such information as would be useful and understood by householders and others who have no technical knowledge of the subjects.

In twelve Chapters the author deals with: Health of the Individual and Family—Site, Soil, Aspect—Building Material—Construction, Design and Arrangement—Warming, Lighting, and Ventilating—Hot and Cold Water—Sanitary Requisites—Decoration and Furniture—Stables, &c.—How to keep the House clean—Obligations of the Householder and Sanitary Authority.

"The Sanitary Inspector's Handbook," by Albert Taylor. 3rd Edition. 408 pp., 8vo. London, 1901. *H. K. Lewis.* Price 6s.

Intended as a text-book upon subjects pertaining to the office of a Sanitary Inspector, and not a scientific work of reference, the student will find this book a useful source of information in preparing for examination, and as a guide to the knowledge necessary to fit himself for the post of Sanitary Inspector or Inspector of Nuisances.

A list of the statutes affecting Inspectors in the metropolis and the provinces is given, followed by an alphabetical synopsis of the Public Health (London) Act, 1891, with the corresponding sections of the Public Health Act, 1875, and its amendments, together with the Public Health (Scotland) Act, 1897.

In the chapter on the Office of Inspectors will be found information relative to the appointment, tenure of office, salary, duties, and qualifications, under which heading the author deals with the examinations qualifying students for the position of Inspector.

Other chapters deal with Abatement of Nuisances—Service of Notices and Legal Proceedings—Book-keeping—House Drainage—Drain Testing—Infectious Diseases—Water Supply—Ventilation—Meat Inspection—and the various Sanitary Appliances.

"The Food Inspector's Handbook," by Francis Vacher, F.R.C.S. 3rd Edition. 195 pp., 8vo. London, 1900. *The Sanitary Publishing Co.* Price 3s. 6d.

The title conveys at once the author's purpose in bringing together the information contained in this book, which is the outcome of an article on "The Physical Appearances of Sound and Unsound Food" published in 1885, grown now to 195 pages octavo, with fifty-eight Illustrations.

The thirteen Chapters are arranged to deal with: The Food Inspector, his Qualifications and Obligations—Statutory Powers—Animals' Carcases and Butchers' Meat—The Diseases of Animals which render Meat unfit for Human Food—The Diseases of Animals which depreciate the quality of the Meat, render portions unfit for Human Food, or in the later stages unfit the whole carcase for Human Food—Poultry and Game—Fish—Fruit and Vegetables—Corn, Bread, and Flour—Milk—Arrowroot, Butter, Cheese, Lard, Eggs, &c.—Tea, Coffee, Cocoa, and Sugar—Condiments, Spices, &c.

"How to become a Municipal Engineer," by J. Freebairn Stow. 31 pp., 8vo. London, 1901. *St. Bride's Press, Ltd.* Price 1s.

Students wishing for information to qualify themselves as Municipal Engineers will find here set out, the author believes for the first time, the course to be pursued, together with qualifications necessary, Course of Training, Examinations, &c.

"Interim Report of the Commissioners appointed in 1898 to inquire and report what methods of treating and disposing of Sewage." Published by *Eyre & Spottiswoode.* Quarto, 13 pp. Price 2d.

An interim report was issued in July dealing with some of the evidence before the Commissioners. The report sets out three questions:—

(1) Are some sorts of land unsuitable for the purification of Sewage.

(2) Is it practicable uniformly to produce by artificial processes alone an effluent which shall not putrefy and so create a nuisance in the stream into which it is discharged.

(3) What means should be adopted for securing the better protection of our rivers.

The conclusions arrived at in this report are:—

Conclusion I.—"We doubt if any land is entirely useless, but in the case of stiff clay and peat lands the power to purify sewage seems to depend on the depth of the top soil.

"There are of course numerous gradations in the depths of top soil which are met with in nature, and it is not easy to draw the line between lands which contain a sufficient depth to justify their use and lands which do not.

"We are, however, forced to conclude that peat and stiff clay lands are generally unsuitable for the purification of sewage, that their use for this purpose is always attended with difficulty, and that where the depth of top soil is very small, say six inches or less, the area of such land which would be required for efficient purification would in certain cases be so great as to render land treatment impracticable.

"Further information with regard to this point will be available when our investigation of land treatment is completed."

Conclusion II.—"After carefully considering, however, the whole of the evidence, together with the results of our own work, we are satisfied that it is practicable to produce by artificial processes alone, either from sewage or from certain mixtures of sewage and trade refuse, such for example as are met with at Leeds and Manchester, effluents which will not putrefy, which would be classed as good according to ordinary chemical standards, and which might be discharged into a stream without fear of creating a nuisance. We think, therefore, that there are cases in which the Local Government Board would be justified in modifying under proper safeguards the present rule as regards the application of sewage to land.

"No general rule as to what these safeguards should be can be laid down at present, and indeed it will probably always be necessary that each case should be considered on its own merits."

Conclusion III.—"We consider it of the utmost importance that the simplest possible means should be provided for adequately protecting all our rivers, and we are further of opinion that it will be desirable probably for some time to come that scientific experiments should be carried on in order to ascertain all the real dangers of pollution against which they should be protected.

"In the present state of knowledge, and especially of bacteriology, it is difficult to estimate these dangers with any accuracy, and it seems quite possible that they should be either exaggerated or undervalued according to the predisposition of those who have to deal with them. An authority guided by medical considerations might not unnaturally be inclined to insist on a degree of purity which may ultimately prove in certain cases to be uncalled for; while another authority, with its mind fixed upon economy, might shrink from taking essential precautions.

"It is, perhaps, scarcely for us to say what arrangements should be made, but we are of opinion that the general protection of our rivers is a matter of such grave concern as to demand the creation of a separate Commission or a new department of the Local Government Board, which shall be a supreme Rivers Authority dealing with matters relating to rivers and their purification, and which when appeal is made to them shall have power to take action in cases where the local authorities have failed to do so."

"Report on Air-Current Meters and Ventilating Terminals," being a record of the experiments carried out by a Committee appointed by The Sanitary Institute, and edited by Mr. W. N. Shaw, M.A.

The Journal this Quarter is devoted to the publication of a long series of experiments, which were carried out by a Committee of the Institute for the purpose of testing air meters and ventilating terminals. The Report has had to be prepared under somewhat peculiar conditions, as all the members who constituted the Committee and conducted the experiments died before the report could be issued, and for this reason it appears mainly as a record of the various experiments and observations, with practically no remarks or conclusions upon the result of these experiments.

The records deal with a number of very interesting problems, recording in Part I. the history of the early experiments on the action of wind passing over tubes, and sets out the work undertaken by the Committee.

Part II. is devoted to the testing of air-current meters under various conditions, with a view to determining the relation of the dial readings to the actual flow of air passing the meter, both in an open space and in a tube.

Part III. relates to experiments in the determination of wind velocities by means of the Robinson Cup Anemometer and other apparatus. It also deals with the measurement of low velocities by the inclination of a candle flame.

Part IV. gives a description of experimental stage set up in the Old Deer Park, Richmond, and the investigations carried out by the Committee for the purpose of determining the flow of air in open tubes from the interior of the building, caused by the passage of wind over the top.

The last Section of the Report, Part V., contains the record of the experiments on various forms of caps and terminals fitted on the top of an open pipe.

A very large number of terminals were specially designed by the Committee, and tried with varying dimensions in their different parts, and in different relations to the direction of the wind, Sketches of the various forms of terminals experimented upon are given in the Report, with a reproduction of the result of the observation. Some experiments were also made to ascertain the conditions producing down-draught, and the effects of sloping roofs.

The Report occupies about 200 pages, and is illustrated with Sketches of the apparatus used, and diagrammatic and tabular representations of the results of the observations.

A complete record of all the observations made is preserved among the papers of the Committee at the Institute.

ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

Abstracts of Titles classified in this List under the following headings:—

Science in Relation to Hygiene and Preventive Medicine.

Hygiene of Special Classes, Trades and Professions, and Municipal Administration.

Building Materials, Construction, and Machinery.

Water Supply, Sewerage, and Refuse Disposal.

Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.

Science in relation to Hygiene and Preventive Medicine.

BECK, M., and RABINOWITSCH, L. Ueber den Werth und die Bedeutung der Arloing-Courmont'schen Serumreaction, besonders im Bezug auf die frühzeitige Erkennung der Rindertuberculose. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 205.

The paper examines the value and the importance of the Arloing-Courmont serum reaction, especially with reference to the early diagnosis of cattle tuberculosis.

BEHRENS, Dr. RICHARD. The influence of climate on Diphtheria, Scarlatina, Measles, and Typhus Fever. *Archiv für Hygiene*, Vol. XL., Part I., p. 1, 1901.

A very extensive enquiry into a difficult subject based upon a very large number of observations, recorded as annual and weekly averages for ten years, from 1888 to 1897, in twelve tables and sub-tables. The author considers not only seasonal prevalence of the diseases, but the influence also in each season of weather changes.

BONGERT. Corynethrix pseudotuberculosis murium: ein neuer pathogener Bacillus für Mäuse. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 3, p. 449.

The author describes a new pathogenic bacillus for mice, which he calls "Corynethrix pseudotuberculosis murium," and records some experiments made with the same.

Celli, A. Epidemiology of Malarial Disease according to the most recent investigations. *Archiv für Hygiene*, Vol. IV., Part I., p. 187, 1901.

The author treats of the several forms of epidemic insidence as they effect north, south, and mid Italy, but especially the Roman Campagna. The relative frequency of quartan and tertian during the several seasons of the year, &c. A specially interesting feature of the paper is the consideration of several kinds of waters frequented by anopheles and calex, such as rice-fields, bogs, sewage farms, fresh, salt, and sulphur waters.

Conradi, Dr. H., and Vogt, Dr. H. Ein Beitrag zur Aetiologie der Weil'schen Krankheit (A contribution to the aetiology of Weil's disease). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 283.

The author examines into the question whether the so-called Weil's disease is caused by a specific exciting cause, and whether this specific cause is the bacillus proteus fluorescens. He does not arrive at definite conclusions.

Dreyer, G. Ueber die Grenzen der Wirkung des Diphtherieheilserums gegenüber den Toxonen des Diphtheriegiftes. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 268.

This is an interesting paper on the limits of the effect of diphtheria serum compared with the toxones of the diphtheria poison.

Dreyer, G., and Madsen, Th. Ueber Immunisirung mit den Toxonen des Diphtheriegiftes (On Immunisation with the Toxones of Diphtheria Poison). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 250.

The authors record their experiments, which have led them to the conclusion that immunity may be procured with toxones, and that it is possible to produce thereby antitoxine in animals of various species.

Fisher, W. W., M.A. On alkaline waters from the chalk. *The Analyst*, August, 1901, p. 202.

Gives analyses of the mineral solids of many waters from chalk, and deals with the source of the alkalinity of such waters.

Flügge, C., Professor of the Breslau University. Weitere Beiträge zur Verbreitungsweise und Bekämpfung der Phthise. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII., Heft 1, p. 1.

This is a very interesting contribution by the well-known author on the spread of phthisis, and the means to be employed for combating it. He reviews critically the experiments carried out by a number of observers, and states that one of the most frequent methods of propagation is the inhaling of the minute drops thrown out during coughing fits. Besides this the inhaling of dry sputum dust has doubtless its certain share in the transmission of the disease.

Hegeler, A. Ueber die Ursache der baktericiden Serumwirkung (On the cause of the bactericidal effect of serum). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 1, p. 115.

This is a short paper on the cause of the bactericidal effect of serum, in which the author endeavours to shew, that according to the experiments this effect is not brought about by plasmolytic processes and want of nutritious substances.

Heim, Prof. L. On splenic fever infection. *Archiv für Hygiene*, Vol. 40, Part 1, 1901, p. 55.

On a hitherto unobserved capsule giving a feeble but distinct rose-tint in films treated by the Löffler's methylene blue method.

Herr, Dr. Das Pasteurisiren des Rahms als Schutz gegen die Verbreitung der Tuberculose durch Butter. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII., Heft 1, p. 182.

The author examines into the question of destroying the tubercle bacilli through pasteurizing the cream, and comes to the conclusion that the pasteurizing of cream for 5 seconds at a temperature of 85° C. removes the danger of tubercular infection completely.

Herr, Dr. Ein Beitrag zum Verhalten der Tuberkelbacillen bei Ueberinpfung auf Blindschleichen. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII., Heft 1, p. 198.

This is an interesting contribution to our knowledge on the behaviour of tubercle bacilli after injection into blind-worms.

Herr, Dr. Ein Beitrag zur Verbreitung der säurefesten Bacillen. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII., Heft 1, p. 201.

This is an interesting contribution to our knowledge of the dissemination of acid-fast bacteria.

Herr, Dr. F., und Beninde, Dr. M. Untersuchungen über das Vorkommen von Tuberkelbacillen in der Butter. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII., Heft 1, p. 152.

The authors record a number of experiments, which they have carried out for the purpose of ascertaining the existence of tubercle bacilli in butter, and state, as a result of the investigations carried out up to now, that in 60 cases out of a total of 444 (=13 per cent.) the places from which the materials for the making of butter had been derived were infected.

Heymann, Dr. B. Versuche über die Verbreitung der Phthise durch ausgehustete Tröpfchen und durch trocknen Sputumstaub. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII., Heft 1, p. 21.

The Paper contains a valuable set of experiments on the transmission of phthisis through expectorated minute drops and dry sputum dust.

Kedrowski, W. J. Ueber die Cultur der Lepraerreger (On the culture of the lepra bacillus). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 1, p. 52.

The author first mentions the results of the experiments of previous observers, and then records a series of investigations carried out by him with a view to obtaining further information concerning the behaviour of lepra bacilli.

Klimoff, Dr. J. Zur Frage der Immunstoffe des Organismus (On the immune substances of the organism). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 1, p. 120.

This is a short paper on the immune substances of the animal organism.

Lingelsheim, Dr. von. Ueber die Bedeutung der Salze für die baktericide Wirkung des Serums: Ein Beitrag zur Alexinfrage. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 1, p. 131.

The author deals with the importance of salts for the bactericidal effect of blood serum. It is a contribution to our knowledge of alexines.

Markl. Weitere Untersuchungen über die Pesttoxine. *Zeitschrift für Hygiene u. Infectionskrankheiten*, Bd. XXXVII., Heft 3, p. 401.

The paper is a lengthy one, and contains further experiments made by the author on the toxines of bubonic plague.

M'Fadyean, J., M.B., B.Sc., F.R.S.Ed. Tubercle bacilli in cow's milk as a possible source of Tuberculosis Disease in Man. *The Journal of State Medicine*, September, 1901, p. 556.

Consists, in the main, of a refutation of Dr. Koch's recently-expressed views with reference to the reciprocal infectivity of bovine and human tuberculosis.

MIRONESCU, T. Ueber das Vorkommen von tuberkelbacillen ähulichen Bakterien in menschlichen Fäces. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 3, p. 497.

This paper deals with the existence of tubercle-like bacilli in human fæces.

NENNINGER, Dr. O. Ueber das Eindringen von Bakterien in die Lungen durch Einathmung von Tröpfchen und Staub. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII., Heft 1, p. 94.

The Author records a valuable set of experiments which he carried out with a view to ascertaining to what extent bacteria can enter the lungs through the inhaling of expectorated minute drops and sputum dust.

NEWSHOLME, ARTHUR, M.D., F.R.C.P. The Possible Medical Extension of Public Health work. *The Journal of State Medicine*, September, 1901, p. 538.

The Presidential Address to the Section of Preventive Medicine of the recent Congress of the Royal Institute of Public Health.

PFEIFFER, Dr. A. Siebzehnter Jahresbericht über die Fortschritte und Leistungen auf dem Gebiete der Hygiene. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXII., Supplement.

This is a very interesting report on 628 pages by 16 contributors on the progress of Hygiene in its various branches during the year 1899. It is without doubt the most comprehensive survey of the progress of sanitary science in Europe.

PILE, SIR THOMAS D,, Bart. The Role of the Municipality in Relation to Public Health. *The Journal of State Medicine*, September, 1901, p. 525.

The Presidential Address to the Municipal and Parliamentary Section of the recent Congress of the Royal Institute of Public Health.

RABINOWITSCH, L. Die Infectiosität der Milch tuberculöser Kühe, die Sicherstellung der bakteriologischen Diagnose sowie die praktische Bedeutung des Tuberculins für die Ausrottung der Rindertuberculose. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 3, p. 439.

The authoress maintains that according to the present state of our knowledge it is impossible to stamp out bovine tuberculosis without the aid of tuberculin.

Radziewsky, Dr. A. Untersuchungen zur Theorie der bakteriellen Infection (Gesetz der Infection) (Investigations relating to the theory of bacterial infection) (law of infection). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 1, p. 1.

This is a lengthy and painstaking investigation into the wide and, up to now, imperfectly understood subject of bacterial infection, and into the various processes which play an important part therein.

Rhaner, Dr. R. On the Epidemiology and Ætiology of Whooping Cough. *Archiv für Hygiene*, 1901, Vol. XL., Part I., p. 61.

History of Epidemics of the disease from the middle of the 16th Century to the present time, and treating of the Morbidity and Mortality of the disease. The Author also discusses at length the Bacteriology.

Rideal, S., D.Sc., F.I.C. The Aëration Test for Sewage Effluents. *The Analyst*, August, 1901, p. 197.

Deals with the subject of the estimation of dissolved oxygen in sewage effluents, and suggests a uniform method.

Schenk, **Paul**, Dr. Der gegenwärtige Standpunkt in der Bekämpfung des Kindbettfiebers (The present state of the prevention of puerperal fever). *Deutsche Vierteljahrsschrift f. öffentliche Gesundheitspflege*, Bd., XXXIII., Heft 2, p. 267.

The author first deals with the question: What is Puerperal fever and how is it brought about? He then suggests means for its prevention. The chief points in this respect are the limitation as far as ever possible of all internal examinations and operations, and the thorough disinfection of all things which may come in contact with the internal parts of women during and after confinement. Foremost in this respect are the hands of medical men and nurses.

Schuhmacher, H., Dr. Beitrag zur Frage des Ueberganges der im Serum gesunder und typhus kranker Wöchnerinnen enthaltenen Agglutinine auf den kindlichen Organismus. *Zeitschrift f. Hygiene u. Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 323.

This is an interesting contribution to our knowledge of the transfer of the agglutinines contained in the serum of healthy lying-in patients and of those sick with typhoid fever to the organism of the infant.

Silberschmidt, W. Ueber Aktinomykose. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 3, p. 345.

This is a lengthy paper on actinomycosis. The author records a series of experiments.

Steinitz, Dr. F. Die Beseitigung und Desinfection des phthisichen Sputums. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII., Heft 1, p. 118.

The author has investigated the question how phthisic sputum is to be removed and disinfected, and recommends certain methods for doing this.

Symanski, Dr. Einige Desinfectionsversuche mit einem neuen Desinficiens "Lysoform." *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 393.

The author records some experiments, which he has made with a view to ascertaining the value of a new disinfectant called "Lysoform," and arrives at favourable conclusions.

Wassermann, Dr. A. Experimentelle Beitraege zur Kenntniss der natürlichen und künstlichen Immunität. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 173.

The paper contains experimental contributions to our knowledge of natural and artificial immunity; it finishes with a set of fourteen conclusions.

Wilde, M. Ueber das Verhalten der baktericiden Kraft des Kaninchenserums bei der Milzbrandinfection. *Zeitschrift für Hygiene und Infectionkrankheiten*, Bd. XXXVII., Heft 3, p. 476.

The author records some experiments on the behaviour of the bactericidal power of the serum of rabbits in anthrax infection.

Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

Barker, Algernon, Barrister. Rights as to Sewage, Part II. and Part III. *R.I.B.A. Journal*, July 27th, 1901, p. 442, and August 31st, 1901, p. 469.

Home Sewers.
Insufficient Sewers and Foreign Sewers.

"Builder," Editor of the. The great fire at Antwerp and its effects. *The Builder*, June 22nd, 1901, p. 598.

A description of the construction of the buildings, and of the effect of the fire upon the materials and construction. Illustrated by a plan and detailed sections.

Currey, Percival, F.R.I.B.A. St. Thomas's Hospital. *The Builder*, June 29th, 1901, p. 639.

A description of two new operating theatres and a new children's ward.

Dölger, Dr. R. Was ist bisher über den Einfluss der Höhenlage der Wohnungen in den Grossstädten statistisch festgestellt? Wie lässt sich dieser Einfluss erklären. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 3, p. 444.

The paper deals with the influence on health of the height above the street of dwellings in large towns, and how this influence is to be explained. According to the author the mortality is least on the first floor, and increases from here both towards the roof and the cellar.

Plumbe, Rowland, F.R.I.B.A. The Housing of the Working Classes. *The Builder*, August 3rd, 1901, p. 107.

Paper read before the Public Health Congress at Eastbourne.

Sandilands, R. Douglas. The Planning of Hospitals. *Surveyor*, June 21st, 1901, *Supplement.*

Necessity for infectious diseases hospitals—site—accommodation—administrative block—official block—laundry—admission wards—main wards—nurses' rooms—w.c's and bathroom—operating room, etc., drainage—lighting—heating and ventilating—consumptive hospital.

Sommerfeld, Dr. Th. Erholungstätten Convalescent Homes. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 2, p. 285.

The author deals first in general with the value of convalescent homes, and describes then (with the aid of photographs) a convalescent home of the Red Cross Society near Berlin.

Building Materials, Construction and Machinery.

Baker, Prof. Ira O. Effects of different methods of Moulding upon the strength of Cement. *The Engineering Record*, August 10th, 1901, p. 128.

Details of tests showing the variation of tensile strength in machine and hand moulded briquettes.

Ewing, W. W. Tests of the strength of Guastavino Floor Arches. *Engineering Record*, August 3rd, 1901, p. 111.

Details of tests of 6, 10, and 12-foot spans, with details of deflection, etc.

Furber, William Copeland, M.Am.Soc.C.E. The Steelwork in Skeleton Buildings. *The Engineering Record*, Aug. 3rd, 1901, p. 106.

Rust protection—fire-proofing—wind bracing—eccentric loading of columns—spans—open *v.* closed column section.

Water Supply, Sewerage and Refuse Disposal.

Bloch, Dr. Die Geschichte der Wasserversorgung des oberschlesischen Industriebezirks (History of the Water Supply of the Upper Silesian mining district). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 2, p. 223.

The Upper Silesian mining district in Prussia has an area of about 200 square miles, with a population of nearly 600,000 people, and the author gives a very interesting historical account of the difficulties encountered with the water supply. Incidentally he mentions a serious typhoid epidemic at Beuthen, which was clearly traced to the water supply from a deep mine. In the case of a new deep well a neutral zone with a radius of six miles was established in which mining operations are prohibited.

Böhm, Dr. F. Die Beseitigung der Fäcalien und Abwässer des Lagers Lechfeld durch Einleitung in den Lech. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 3, p. 456.

This paper deals with the sewerage and sewage disposal of the Bavarian military camp on the Lechfeld, near Augsburg, and with the self-purifying powers of the Lech. It contains a very interesting record of the complete failure in every respect of a large septic tank installation, which had to be abandoned in the end.

"Builder," Editor of the. The London Sewage Problem. *The Builder*, August 10th, 1901, p. 123.

An editorial article upon the third report of Dr. Clowes and Dr. Houston on the "Bacterial treatment of Crude Sewage."

Büsing. Die Entwässerung der Stadt Schöneberg sowie der Vorote Friedenau u. Wilmersdorf bei Berlin. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 3, p. 474.

This is an interesting paper on the suggested drainage of a large district near Berlin, which has formed itself into a Joint Sewerage Board. The Author evolves the programme according to which the works are to be designed.

Kidd, Thomas, A.M.Inst.C.E. Public Works at Swadlincote. *The Surveyor*, July 26th, 1901, p. 102–3.

General statistics; sewerage and sewage disposal; night scavenging; water; joint waterworks at Milton; trial holes; description of works; softening process and apparatus; registering apparatus; particulars of cost of works, &c.

Schüder, Dr. Ueber das Schumburg'sche Verfahren der Wasserreinigung mittels Brom. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 307.

The author has experimentally tried the system of water sterilisation with bromine recommended by Schumburg, and has come to the conclusion that it cannot be relied on for a drinking water supply.

Scott-Moncrieff, W. D. Purification of Sewage. *The Builder*, August 17th, 1901, p. 159.

A letter criticising adversely the methods adopted by the professional advisers of the County Council (London).

Van, M. L. Filtration de l'eau pour l'usage publique. *La Technologie Sanitaire*, February 1st, 1901, p. 301.

Filtration of water on a large scale—conditions of efficiency.

Watts, William, F.G.S. Detecting and Preventing the Pollution of Public Water Supplies from Moorlands. *Building News*, July 26th, 1901, pp. 98, 99.

Sources of water supply—pollution—reservoirs and their construction—flood water—vegetation a source of pollution—methods for preventing pollution—materials for conduits and jointing pipes.

Yabbicom, T. H., M.Inst.C.E. Notes of Experiments made on the Purification of Sewage by means of Stoddart's improved Sewage Filter at Knowle, near Bristol. *The Surveyor*, July 19th, 1901, p. 64.

Sketch of drainage of Bristol and Knowle—analysis of sewage effluents—description of Stoddart's filter—results and analyses of resultant effluent.

Personal and Domestic Hygiene.

Beck, Dr. M. Ueber die desinficirenden Eigenschaften der Peroxole. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 294.

The author investigates the disinfecting value of peroxoles.

Jacobitz, Dr. Ueber desinfizirende Wandanstriche (On disinfecting paints for walls). *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 1, p. 70.

This is a careful investigation into the value of disinfecting paints for walls. After enumerating generally previous experiments the author records his own investigations, and comes to the conclusion that some of the substances experimented on are valuable disinfectants.

Kister, Dr. J. Ueber Gesundheitsschädlichkeit der Borsäure als Conservirungsmittel für Nahrungsmittel. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 225.

The author investigates the question whether boracic acid, which is employed in preserving food-stuffs, is dangerous to health, and comes to the conclusion that such an addition to our food-stuffs should be publicly prohibited.

Krausz, Dr. A. Ueber die Infectionsfähigkeit und Desinfection von gebrauchten Büchern. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 241.

The paper deals with the infection and disinfection of books, and the author is of opinion that books may contain infectious matter capable of doing mischief, and that they ought to be disinfected. He recommends a certain way of disinfection.

Nicolai, Dr. Der Kaffee und seine Ersatzmittel (The coffee and its substitutes). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 2, p. 294, and Heft 3, p. 502.

The paper gives first some historical notes on coffee; it then deals with the natural history of coffee and its propagation, the chemistry of coffee, and the physiological effects of coffee. In the latter part ome interesting observations, chiefly on soldiers, are recorded.

Ocker, Dr. Die polizeiliche Ueberwachung des Verkehrs mit Milch (The supervision of the milk traffic by the police). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 2, p. 244.

The author deals first with the composition of milk, and the various methods employed for testing the same. He then dwells on the connection between milk and such infectious diseases as tuberculosis, typhoid fever, cholera, diphtheria, scarlatina, measles, &c., and suggests finally six rules, which ought to be enforced by the police.

Orzechowski, Dr. B. Einfaches Mittel zur Bestimmung des Salzgehaltes in der Butter. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 275.

This is a short paper describing a simple apparatus and its application for determining the amount of salt contained in butter.

Proelss, Dr. Ueber die sanitätspolizeiliche Ueberwachung des Radelns besonders bezüglich der Geschäftsdreiräder für halberwachsene junge Leute. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 3, p. 401.

This is a lengthy and interesting paper on cycling, with a number of illustrations. The author is of opinion that, with a view to protecting the health of riders, certain public regulations ought to be made, which ought to be more stringent in the case of young persons using cycles for business purposes.

Tumpowski, Dr. A. Von der bakteriologischen Untersuchung des Fleisches in den Läden und Fleischbänken von Lodz. *Zeitschrift für Hygiene und Infectionskrankheiten*, Bd. XXXVII., Heft 2, p. 278.

The author describes some interesting bacteriological experiments which he has made with the meat sold in butcher shops and market stalls in Lodz, a town in Russian Poland, and mentions a number of pathogenic germs identified by him.

SANITARY LEGISLATION.

Plumbers Registration Bill.

A Bill with this title has been introduced in the House nearly every year since 1892, and has on two occasions reached a second reading. The action taken on last year's Bill was reported in the Journal, Vol. XXI., page 224.

This year the Bill was introduced in the House of Lords. All details have been omitted, and the four clauses of which the Bill is composed cast on the Local Government Board the formation of a scheme for carrying the Registration of Plumbers into effect. When the Bill was read a second time Lord Kenyon stated that the Local Government Board did not want to undertake this duty. The Bill was not read in the House of Commons.

MEETINGS HELD JULY TO SEPTEMBER, 1901.

LECTURES TO SANITARY OFFICERS.

The Thirty-second London Course of Lectures and Demonstrations to Sanitary Officers commenced on September 2nd. Thirty-three Students have taken tickets for this course.

EXAMINATIONS.

From June to September the following Examinations were held:—

PRACTICAL SANITARY SCIENCE.

July 12th and 13th, Liverpool. 3 Candidates, 1 Certificate granted.
July 26th and 27th, Cardiff. 5 Candidates, 1 Certificate granted.

INSPECTOR OF NUISANCES.

July 12th and 13th, Liverpool. 94 Candidates, 48 Certificates granted.
July 26th and 27th, Cardiff. 67 Candidates, 40 Certificates granted.

INSPECTOR OF MEAT AND OTHER FOODS.

July 19th and 20th, Liverpool. 11 Candidates, 9 Certificates granted.

CANDIDATES WHO HAVE RECEIVED CERTIFICATES, JULY—SEPTEMBER, 1901.

Practical Sanitary Science.

1901, July 27.	HAWKINS, JOHN CHARLES.
1901, July 13.	TOMLINSON, FREDERICK WALTER.

Inspectors of Nuisances.

1901, July 13.	ADDISON, JOHN FREDERICK.
1901, July 13.	ALSTEAD, JOHN FARRINGTON.
1901, July 27.	ANDOW, CHARLES DANIEL.
1901, July 13.	APTED, LESLIE JOHN.
1901, July 13.	BAILEY, JAMES.
1901, July 13.	BAINBRIDGE, JOHN.

1901, July 13.		Bamber, Thomas Beattie.
1901, July 27.		Butterworth, James.
1901, July 13.		Clark, Isaac, Junr.
1901, July 13.	*L*	Coe, Miss Annie Jane.
1901, July 27.		Collard, Ernest William.
1901, July 27.		Collis, Alfred Ernest.
1901, July 27.		Cox, Charles Edwin.
1901, July 27.		Cragg, William.
1901, July 13.	*L*	Crichton, Miss Marjory Jane.
1901, July 27.		Daniel, George Fred.
1901, July 27.		Davies, Eiryn William.
1901, July 27.	*L*	Davies, Miss Mildred Grace.
1901, July 13.		Davies, Stanley.
1901, July 27.		Davies, William.
1901, July 13.		Donnelly, George Arnold.
1901, July 27.		Drew, Thomas Alfred.
1901, July 13.		Evans, Edward Owen.
1901, July 13.		Fairbrother, William Thomas.
1901, July 27.		Fairchild, James Bryant.
1901, July 13.		Fletcher, James.
1901, July 27.		George, Ivor Edgar Griffith.
1901, July 13.		Gorman, William Thomas.
1901, July 27.		Gorvett, Alfred.
1901, July 27.		Griffiths, James.
1901, July 13.		Griffiths, John.
1901. July 27.		Hall, Clifford William.
1901, July 13.		Hardcastle, Alfred Herbert.
1901, July 13.	*L*	Harrington, Miss Mary.
1901, July 13.		Harrison, James Clarke.
1901, July 13.	*L*	Hillas, Miss Mary.
1901, July 13.		Hughes, William.
1901, July 27.	*L*	Hunter, Miss Sydney.
1901, July 13.		Hutchinson, James.
1901, July 27.		James, Simon John.
1901, July 13.		Jourdan, George James.
1901, July 27.		Lewis, Harry.
1901, July 13.		Lewis, John.
1901, July 13.		Maccabe, Harry Percy.
1901, July 13.	*L*	Mackenzie, Miss Annie Mildred.
1901, July 27.		Male, Amos Frank.
1901, July 13.		McCabe, Michael John.
1901, July 13.		McMorrine, Archibald.
1901, July 27.		Meazey, William John.
1901, July 27.		Miller, Charles Thomas Narramore.
1901, July 27.		Milner, John.
1901, July 27.		Morgan, Frederick Walter.
1901, July 27.		Morgan, Harry James.
1901, July 27.		Morris, Gwilym Thomas.
1901, July 13.		Morton, Henry.
1901, July 13.		Nuttall, Edwin Henry.

1901, July 13.	Nutter, John Thomas.
1901, July 13.	Ogden, Paul.
1901, July 27.	Ormandy, Henry.
1901, July 13.	Pilkington, George.
1901, July 13.	Pilkington, Thomas.
1901, July 13.	Preston, John Roger.
1901, July 13.	Price, Arthur.
1901, July 13.	Procter, William Eastwood.
1901, July 27.	Pursey, Charles.
1901, July 13.	Richards, Richard H.
1901, July 27.	Richardson, Arthur Edwin.
1901, July 27.	Roberts, Fred.
1901, July 27.	Roberts, Richard Cadwaladr.
1901, July 13.	Roby, William Henry.
1901, July 27.	Ruse, Norman.
1901, July 27.	Scott, Alexander James Evans.
1901, July 27.	Strange, John.
1901, July 13.	Stubbins, Frederick George.
1901, July 13.	Stubbs, James.
1901, July 27.	Tazewell, Frederick William.
1901, July 13.	Thompson, William John.
1901, July 27.	Tucker, William Henry.
1901, July 13.	Walsh, W. H.
1901, July 27.	Watts, Alfred George.
1901, July 13.	Wedge, Benjamin James.
1901, July 13.	West, William.
1901, July 13.	Westwood, Francis John.
1901, July 27.	Wheeldon, James Henry.
1901, July 27.	Williams, David Trevor Farrant.
1901, July 27.	Wood, James.
1901, July 13.	*L* Woodfield, Miss Louise.
1901, July 13.	Young, Alexander

Inspectors of Meat and Other Foods.

1901, July 20.	Abson, Herbert.
1901, July 20.	Attenborough, Harry.
1901, July 20.	Griffith, William Owen.
1901, July 20.	Howatson, Thomas Charles, M.R.C.V.S
1901, July 20.	Jephson, Kay.
1901, July 20.	Lewthwaite, George Rowell.
1901, July 20.	Mills, John.
1901, July 20.	Openshaw, William Pilling.
1901, July 20.	Wycherley, William Nicholson.

Examination Questions.

Practical Sanitary Science.—Liverpool, July 12th and 13th, 1901.

1. What are the modes in which heat is transmitted, and what is the effect of heat on gases, liquids, and solids respectively?

2. What is the difference between soil, subsoil, and geological formation? What is meant by the dip of a stratum? What connection has "dip" with the flow of underground water?

3. Describe the various methods by which the side of a house exposed to rainy winds may be protected from the effects of moisture.

4. What is the mean daily yield of water, in gallons, from a roof covering a building of 400 feet superficial area, the rainfall being 30 inches per annum, and the loss from evaporation 20 per cent.?

5. What are the chief sources of waste of water in a town supply, and what methods are adopted to detect waste?

6. Describe clearly—

(1) A fan for ventilating purposes, and how it may be driven.

(2) A method of washing air.

(3) The best form of fresh air ventilator, with sketch showing its position in relation to floor and ceiling.

7. What defects would you specially look for in examining the drainage of a house carried out about 30 years ago? Give particulars of any tests you would apply.

8. How would you drain a country house where there are no sewers? Give sketches and all particulars of the arrangements necessary to prevent nuisance arising.

The Candidates were examined vivâ voce *on the 13th.*

Practical Sanitary Science,—Cardiff, July 26th and 27th, 1901.

1. What is meant by "mass," "density," "specific gravity?"

2. How is the rainfall at any place affected by distance from the sea, height above sea, a well-wooded country, or the reverse?

3. The growth of towns frequently carries the extension of streets and houses over disused brickfields, perhaps levelled up and covered with vegetation. State what conditions of disadvantage to buildings you would look for, and how would you overcome them?

4. Name the most usual sources of water supply, and briefly state their relative merits?

5. What is meant by "bond" applied to construction? Give plan and elevation to scale of one inch to the foot of a wall two bricks thick, two feet high, and three feet long. Give sketches of the various methods of bonding used for stone walls, and state which is the strongest.

6. Specify the tests for Portland cement. In what proportions, and with what other materials should it be used in forming good concrete? How would you form a foundation for a heavy wall of a building in (*a*) running sand, and (*b*) on a steep clay slope?

7. Describe and sketch the most effective form of radiating fireplace? Give an example of an unsuitable kind of grate, and state the reasons why you consider it so?

8. In laying out a system of sewers, what are the chief points to consider as to lines, inclinations, depths, and sizes of same? Where should manholes and ventilators be placed, and why? In calculating the size of a sewer, what proportion of rainfall should be provided for per 24 hours?

The Candidates were examined vivâ voce *on the 27th.*

Inspector of Nuisances.—Liverpool, July 12th and 13th, 1901.

1. What quantity of water is used in large towns in this country per head of the population for (*a*) domestic purposes, (*b*) public sanitary purposes (street-watering, flushing, &c.), (*c*) trade purposes?

2. What is margarine cheese? Under what restrictions may it be exposed for sale and sold?

3. Describe the points in which the tongue, liver, and heart of a horse differ from those of an ox.

4. How would you disinfect the following articles after their exposure to small-pox infection: A silk hat, a pair of leather boots, an ostrich feather, a sealskin jacket, a velvet dress? Explain your reasons in each case.

5. Given three drains of 3-inch, 4-inch, and 5-inch diameter, converging to a common point, what must be the diameter of a fourth pipe to carry off the delivery of these?

6. Sketch and explain how the basement of a house should be built to prevent dampness in the walls and floors of the rooms.

7. Mention the various registers which are usually kept in an Inspector of Nuisance's Office in an urban district. Suggest headings for a Register of Dairymen, Cowkeepers, and Purveyors of Milk.

8. How may refuse be utilized after collection? Give a sketch and explain the construction of an ordinary "Destructor."

The Candidates were examined vivâ voce *on the 13th.*

Inspector of Nuisances.—Cardiff, July 26th and 27th, 1901.

1. State in general terms the usual sources of pollution and the relative purity of water supplied from (*a*) red sandstone, (*b*) chalk, (*c*) coal measures, (*d*) moorland.

2. Under what circumstances would you condemn the whole carcase of an animal which had suffered from tuberculosis?

3. What are "condensed separated" and "condensed skimmed milk," and under what conditions may they be sold?

4. What are the notifiable infectious diseases? Under what circumstances can you remove to an infectious diseases hospital a person suffering from small-pox?

5. How would you proceed to disinfect the following:—
   (1) A stable with brick floors and wooden stalls, for glanders?
   (2) A privy pit lined with red brick, for enteric fever?
   (3) A bedroom with papered wall and boarded floor, for small-pox.

6. Explain how a "wiped" joint is made in a lead soil pipe. How is a junction made between a w.c. and a soil pipe? Give sketches.

7 Describe how branch drains should be constructed and connected with the main drain so as to prevent deposits; how the escape of sewer gases into dwellings and backyards can be prevented; and what description and extent of ventilation you would recommend for each dwelling-house branch drain. Give your views as to the flushing and disinfection of branch drains, and state how each can be most efficiently accomplished.

8. What circumstances constitute a basement room or rooms a "cellar dwelling?" Under what conditions is the use of cellar dwellings now sanctioned?

Candidates were examined vivâ voce *on the 27th.*

Inspectors of Meat and other Foods.—Liverpool, July 19th and 20th, 1901.

1. On seizing meat which is unsound, describe the different steps necessary to be taken for the prosecution of the offender, and state in what way you would deal with a large consignment of condemned meat.

2. What chemical substances are in use for the preservation of meat and kindred articles of food?

3. Under what circumstances would you consider articles of food "for the purpose of preparation for sale"?

4. What grains are affected by "Bunt," "Smut," "Ergot"; what changes are produced, and how is the grain damaged as a food?

5. How would you test the meat, fresh or salted, that showed no outward signs of decomposition?
6. What would be the post-mortem appearances of a smothered pig?
7. What is the cause of "Sturdy in Sheep"?
8. Mention what diseases in animals might be mistaken for tuberculosis, and state how you would distinguish them.
9. Describe the post-mortem appearances of an animal which had suffered from chronic rheumatism, and give your opinion as to the fitness of the carcase for human food?
10. What is the cause of "yellow carcase," and how would you decide as to the fitness of such a carcase for human food?

The Candidates were examined vivâ voce *on the 20th.*

FORTHCOMING MEETINGS OF THE INSTITUTE.

INSTITUTE DINNER.

It has been arranged to hold the Institute Dinner, which was postponed in the early part of the year on account of the death of Her Majesty Queen Victoria, at the close of the Conference on Water Supply.

His Royal Highness The Duke of Cambridge will not be able to preside this year, but has authorised the invitations being sent out in his name, with that of Sir Francis Sharp Powell, Bart, M.P., Vice-President, who has been invited to take the chair in his place.

The date fixed for the Dinner is October 17th, at the Holborn Restaurant, and Tickets, with or without wine, can be obtained. It is hoped that many Members and Associates and of those attending the Conference will be able to be present.

CONGRESS AND EXHIBITION, 1902.

Arrangements are being made to hold the next Congress and Exhibition of the Institute at Manchester in September, 1902.

The Right Honorable Earl Egerton of Tatton has accepted the Presidentship, and the Senate of Owens College have courteously granted the use of the College buildings for the Reception Rooms and Sectional Meetings.

The Exhibition is to be held in the St. James's Hall.

CALENDAR, SEPTEMBER TO DECEMBER, 1901.

As far as at present arranged.

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Special Purposes Committee	Third Monday at 5 p.m.
Finance Committee	Second Wednesday at 4.30 p.m.
Exhibition Committee	First Monday at 5 p.m.
Congress and Editing Committee	Second Monday at 5 p.m.
Museum and Library Committee	Fourth Monday at 5 p.m.
Examination Committee	Fourth Thursday in April, 5 p.m.
Parliamentary Committee	As occasion requires.
Rivers Pollution Committee	
Meat Inspectors Exam. Committee	

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 2 p.m. on Saturday.

Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.

OCTOBER.

1 Tu. Lecture to Sanitary Officers at 7 p.m. Water: Composition, Pollution, and Purification, by Henry R. Kenwood, M.B., D.P.H., F.C.S.

2 W. Inspection and Demonstration at Lambeth Disinfecting Station, Wanless Road, Loughborough Junction, S.E., at 3 p.m.

2 W. Lecture to Sanitary Officers at 7 p.m. Elementary Statistics, by Henry R. Kenwood, M.B., D.P.H., F.C.S.

4 F. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work, by J. Wright Clarke.

5 S. Lecture to School Teachers at Bedford College, at 11 a.m. General Diseases and Conditions incidental to School Life: their Causes and Effects, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

5 S. Inspection and Demonstration at Ealing Sewage and Destructor Works, at 2.15 p.m., conducted by C. Jones, M.INST.C.E., Borough Engineer and Surveyor.

7 M. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.R.I.B.A.

8 Tu. Lecture to Sanitary Officers at 7 p.m. Sanitary Building Construction and Planning; Soil and Local Physical Conditions, by Prof. R. Elsey Smith, A.R.I.B.A.

9 W. Inspection and Demonstration in the Borough of St. Marylebone, conducted by T. A. Gorniot, Sanitary Inspector.

10 Th. Lecture to Sanitary Officers at 7 p.m. Ventilation, Lighting, and Warming, by Louis C. Parkes, M.D., D.P.H., Medical Officer of Health, Chelsea.

11 F. Lecture to Sanitary Officers at 7 p.m. Calculations, Measurements, and Plans and Sections, by Professor Henry Robinson, M.Inst.C.E.

12 S. Lecture to School Teachers at Bedford College, at 11 a.m. Infectious Diseases: their Nature and History, and Means of Prevention—Tuberculosis, Diphtheria, Scarlet Fever, by W. C. C. Pakes, D.P.H. CAMB., F.C.S.

16 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Appliances, by Prof. Henry Robinson, M.Inst.C.E.

16 W. **Conference on Water Supplies and River Pollution,** 10 a.m. to 1 p.m., **and Exhibition of Appliances, St. Andrew's Hall, Newman Street,** 10 a.m. to 6 p.m. (See page 108.)

17 Th. ,, ,, ,, ,, ,, ,,

17. Th. **Institute Dinner, Holborn Restaurant,** 7.30 p.m.

18 F. Lecture to Sanitary Officers at 7 p.m. House Drainage, by Prof. Henry Robinson, M.Inst.C.E.

18 F. **Exhibition of Water Supply Fittings and Appliances, St. Andrew's Hall, Newman Street,** 10 a.m. to 6 p.m.

19 S. Lecture to School Teachers at Bedford College, at 11 a.m. Infectious Diseases—Chicken-pox, Measles, Whooping-cough, Mumps, Ophthalmia, Small-pox, etc., by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

22 Tu. Lecture to Sanitary Officers at 7 p.m. Water Supply, Sources of Supply and Distribution, by Prof. Henry Robinson, M.INST.C.E.

23 W. Inspection and Demonstration at the L.C.C. Municipal Lodging House, Parker Street, Drury Lane, at 3 p.m.

24 Th. Lecture to Sanitary Officers at 7 p.m. Sewerage, by Prof. Henry Robinson, M.INST.C.E.

26 S. Lecture to School Teachers at Bedford College, at 11 a.m. Law and Procedure relating to Infectious Diseases, by W. C. C. Pakes, D P.H. CAMB., F.C.S.

29 Tu. Lecture to Sanitary Officers at 7 p.m. Sewage Disposal, by Prof. Henry Robinson, M.INST.C.E.

30 W. Inspection and Demonstration in the Borough of St. Marylebone, conducted by T. A. Gorniot, Sanitary Inspector.

31 Th. Lecture to Sanitary Officers at 7 p.m. Scavenging, Disposal of House Refuse, by Prof. Henry Robinson, M.INST.C.E.

NOVEMBER.

1 F. Lecture to Sanitary Inspectors at 7 p.m. Signs of Health and Disease in Animals destined for Food, when alive and after slaughter, Tuberculin and other Tests, by W. Hunting, F.R.C.V.S.

1 F. }
2 S. } Examination in Practical Sanitary Science and for Inspectors of Nuisances, Norwich.

2 S. Lecture to School Teachers at Bedford College, at 11 a.m. School Accidents, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

4 M. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by W. Hunting, F.R.C.V.S.

6 W. Inspection and Demonstration at Harrison & Barber's Knacker Yard, Winthrop Street, Whitechapel, at 3 p.m.

6 W. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.

8 F. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.

9 S. Lecture to School Teachers at Bedford College, at 11 a.m. School Accidents (Demonstration), by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

11 M. Lecture to Sanitary Officers at 7 p.m. The Appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other Food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption ;

Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.

12 Tu. Inspection and Demonstration at the Metropolitan Cattle Market, Islington, at 3 p.m., conducted by James King, M.R.C.V.S.

13 W. Lecture to Sanitary Officers at 7 p.m. The Hygiene of Byres, Lairs, Cow Sheds, and Slaughter Houses, and all places where animals destined for the supply of food are kept, and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for sale, and transported, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.

15 F. Lecture to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the inspection and sale of Meat and other articles of Food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.

15 F.} 16 S.} Examinations in Practical Sanitary Science and for Inspectors of Nuisances, Newcastle-upon-Tyne.

16 S. Lecture to School Teachers at Bedford College, at 11 a.m. Disinfectants and Disinfection, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

23 S. Lecture to School Teachers at Bedford College, at 11 a.m. Disinfection (Demonstration), by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

29 F.} 30 S.} Examinations in Practical Sanitary Science and for Inspectors of Nuisances, London.

DECEMBER.

6 F.} 7 S.} Examination for Inspectors of Meat and other Foods, London.

11 W. **Sessional Meeting** at 8 p.m.

20 F.} 21 S.} Examinations in Practical Sanitary Science and for Inspectors of Nuisances, Manchester.

HON. FELLOWS, FELLOW, MEMBERS, AND ASSOCIATES

ELECTED JULY, 1901.

(A Complete List can be had on application.)

HONORARY FELLOWS.

52 1901. July. BIGGS, Hermann, M.D., *Health Department, 5, West 58th Street, New York City.*

53 1901. July. WEYL, Dr. Med. Th., *Charlottenburg, Berlin (Camer Strasse 5, Berlin).*

FELLOW.

878 1901. July. PRICE, John, M.INST.C.E., *Council House, Birmingham.*

MEMBERS.

* Passed Examination in Practical Sanitary Science.
‡ Passed Examination as Inspector of Nuisances.

1511 1901. July. Brown, E. Harold, MAJOR I.M.S., M.D.(BRUX.), L.R.C.P., *etc., The Hermitage,* 2, *Alipur, Calcutta.*
1512 1901. July. Burns, John Francis, *Borough Surveyor, Devonport.*
1513 1901. July. *Byrne, Thomas, 123, *Parnell Terrace, South Circular Road, Dublin.*
1514 1901. July. Cornwall, John Wolfran, M.A., M.D., CAPT. I.M.S., *Madras Club, Madras. (Health Officer, Madras City).*
1515 1901. July. Cox, Arthur Laurence, 2, *Lower Sandgate Road, Folkestone.*
1516 1901. July. *‡Elgar, Fred, *Ashberry, Endless Street, Salisbury.*
1517 1901. July. Hill, Luke Mullock, M.INST.C.E., *Town Superintendent, Georgetown, Demerara.*
1518 1901. July. ‡Madin, William Beresford, *Engineer and Surveyor, Urban District Council, Rushden.*
1519 1901. July. *‡Sands, Percy Brett, 19, *Warwick Gardens, Kensington, W.*
1520 1901. July. *Ward, George, 114, *University St., Belfast.*

ASSOCIATES.

‡ Passed Examination for Inspectors of Nuisances.

2336 1901. July. ‡Bell, Chas. W., 11, *Melville Terrace, Edinburgh.*
2337 1901. July. ‡Bhose, Miss Mary Grace, 200, *Barking Road, Canning Town.*
2338 1901. July. ‡Burgess, Alfred, 127, *Upper Lewes Road, Brighton.*
2339 1901. July. ‡Fisher, Mrs. Theodora, 66, *Bromfelde Road, Clapham.*
2340 1901. July. ‡Mackie, Andrew, *Hill Street, Alloa, N.B.*
2341 1901. July. ‡White, Coleridge Dingley, *Council Offices, Hanwell.*
2342 1901. July. ‡Cooper, John, 86, *Moray Road, Finsbury Park, N.*
2343 1901. July. ‡Fisher, Clarence William, *White Cottage, Little Heath, Chadwell.*
2344 1901. July. ‡Holley, Arthur William, 7, *North St., Herne Bay.*
2345 1901. July, ‡Jackson, John, *Bailiffgate, Alnwick.*
2346 1901. July. ‡Jones, William, *Park Farm, Maenan, Llanrwst.*
2347 1901. July. ‡Morgan, Philip, 22, *Windsor Terrace, Swansea.*
2348 1901. July. ‡Phillips, Thomas Brice, 4, *Arlesford Terrace, Uckfield.*
2349 1901. July. ‡Rapley, James Wilfred Murrant, 38, *Forton Road, Gosport.*

EXHIBITS ADDED TO THE MUSEUM,

FROM JULY TO SEPTEMBER, 1901.

Parasites, External and Internal. Three diagrams illustrating (*a*) External, (*b*) Round-worms, (*c*) Tape-worms.

"**Sham Joints.**" An illustration of defective plumbing found in three houses in the Vauxhall District. The pipes are jointed first with a copper-bit, and round this joint plaster of Paris covered with tinfoil has been ingeniously moulded, so that at first sight they look like wiped solder joints.

Equifex Spray Distributor. A portable form of apparatus for spraying rooms after infectious disease. *J. Defries & Sons, Ltd.*

Alformant Lamp. For vaporising formic aldehyde for deodorising and disinfecting rooms. *The Formalin Hygienic Co.*

CONTRIBUTIONS AND ADDITIONS TO LIBRARY

From July to September, 1901.

⁂ *For publications of Societies and Institutions, &c., see under "Academies."*

ACADEMIES (AMERICAN.)

Washington. *American Institute of Architects.* Proceedings of the Thirty Fourth Annual Convention. 185 pp., 8vo. Washington, December, 1900. *The Institute.*

ACADEMIES (BRITISH).

London. *Guy's Hospital Medical School.* Calendar, 1901–1902. 93 pp., 8vo. London, 1901. *The School.*

——— *Middlesex Hospital.* Reports of the Medical, Surgical, and Pathological Registrars for the year 1899. 298 pp., 8vo. London, 1900. *The Registrars.*

——— *Institution of Civil Engineers.* Minutes of Proceedings with other selected and Abstract Papers, Vol. CXLIV., 1900–1901, Part II. 444 pp., 8vo. London, 1901. *The Institution.*

——— *Institution of Civil Engineers.* Minutes of Proceedings with other selected and abstracted papers. 496 pp., 8vo. London, 1901. *The Institution.*

——— *Institution of Mechanical Engineers.* Proceedings, February to May, 1901, Part II. 235 pp., 8vo. London, 1901. *The Institution.*

——— *Manchester and Salford Sanitary Association.* Annual Report, 1900. 107 pp., 8vo. Manchester, 1901. *The Association.*

London. *National Association for the Promotion of Technical and Secondary Education.* Thirteenth Annual Report, 1900–1901. 100 pp., 8vo. London, 1901. *The Association.*

Newcastle-upon-Tyne. *North of England Institute of Mining and Mechanical Engineers.* Transactions. Vol. XLIX., Part VI., Vol. L., Parts II., III., and IV. *The Institute.*

——— *University of Durham College of Medicine.* Calendar for the year 1901–1902. 152 pp., 8vo. Newcastle-upon-Tyne, 1901. *The College.*

Adams, *H., M.Inst.C.E.* Designing Ironwork. Second Series, Part II. Notes Formulæ, Calculations and Working Drawings for Built-up Steel Stanchions. 59 pp., 8vo. London, 1901. *The Author.*

Belfast. Report on the Scheme of Sewage. Purification proposed for Belfast and its probable effects on the Lough, by E. A. Letts, D.Sc., P.L.D., F.C.S. 55 pp., 8vo.

——— Report on the Bacteriological Contact Beds for the treatment of Sewage. 31 pp., 8vo. Belfast, 1901. *J. Munce, Assoc.M.Inst.C.E.*

Bengal. Thirty-third Annual Report of the Sanitary Commissioner for 1900. 77 pp., fcp. Calcutta, 1901, *The Sanitary Board.*

Berlin, *Imperial Insurance Department.* Statistics of Medical Treatment of Persons suffering from Tuberculosis and other Diseases insured by the Insurance Institutions, and admitted Cash Establishments of German Invalidity Insurance for the years 1897-1900. 87 pp., fcp. Berlin, 1901. *The Department.*

Board of Agriculture. Annual Reports of Proceedings under the Diseases of Animals Acts, the Markets and Fairs (Weighing of Cattle) Acts, etc., for the year 1900. 93 pp., 8vo. London, 1901.

——— Leaflets. 68, Currant Aphides, 5 p.; 69, Tent Caterpillars, 5 p. 8vo. London, 1901. *The Board.*

Bombay Improvement Trust. Administration Report for the year ending 31st March, 1901. 26 pp., fp. Bombay, 1901. *S. Rebsch, Chairman.*

British Congress on Tuberculosis, *London, July 1901.* Descriptive Catalogue of the Museum, compiled and edited by W. Jobson Horne, M.D. 186 pp., 8vo. London, 1901.

Engelmann, *Dr.* Results of the Open Air Treatment of Consumption. 22 pp., 4to. Berlin, 1901.

Factories and Workshops. Annual Report of the Chief Inspector for the year 1900. 664 pp., fp. London, 1901. *Arthur Whitelegge.*

Freebairn-Stow, *J.* How to become a Municipal engineer. 31 pp., 8vo. London, 1901. *The Author.*

Glasgow. Report on certain Cases of Plague occurring in Glasgow in 1900, by the Medical Officer of Health. 86 pp. fp. Glasgow, 1901. *A. K. Chalmers, M.D., D.P.H.*

Hoffmann, *F. L.* History of the Prudential Insurance Company of America (Industrial Branch) 1875–1900, 338 pp., 8vo. Newark, N. J., 1900. *The Author.*

Jensen, *G. J., and another.* By-Laws as to House Drainage and Sanitary Fittings made by the London County Council, annotated. 139 pp., 8vo. London, 1901. *The Publishers.*

Jones, *Lieut.-Colonel A. S.,* 𝔙.ℭ., *Assoc.M.Inst.C.E.* Sewage Treatment. 15 pp., 8vo. Glasgow Engineering Congress, September, 1901. *The Author.*

Klein, *G. A.* The Results of the Workmen's Insurance of the German Empire, 19 pp., 8vo. Berlin, 1900. *The Author.*

Korosy, *Dr. Joseph von.* Die Sterblichkeit der Haupt- und Residenzstadt Budapest en den Jahren, 1891-1895, und deren ursachen. 216 pp., 4to. Berlin, 1901. *The Author.*

Lachapelle, *E. P., M.D.* The Physician and Hygiene, 8 p., 8vo. reprint. *Montreal Medical Journal,* November, 1900. La Prophylaxie de la Tuberculose. 10 pp., 8vo. Montreal, 1900. Les Maladies contagieuses, l'Hygiene, et les pouvoirs publics. 15 pp., 8vo. Montreal, 1901. *The Author.*

Leicester. The Public Works of. A Souvenir of the Meeting of the Incorp. Assoc. of Municipal and County Engineers at Leicester, June, 1901. 49 pp., 8vo. Leicester, 1901. *E. G. Mawbey, M.Inst.C.E.*

Liverpool Waterworks. Annual Report of the Engineer for the year 1900. 34 pp., 8vo. Liverpool, 1901. *J. Parry, M.Inst.C.E.*

Local Government Board. Model Bye-Laws, IV. (Rural Districts). New Buildings and certain matters in connection with Buildings. 40 pp., 8vo. London, 1901. *The Board.*

——— Report upon the Sanitary circumstances and Administration of the Urban District of St. Helens, Isle of Wight, by Dr. H. Timbrell Bulstrode. 6 pp., fp. London, 1901.

——— Dr. Theodore Thomson's Report on the Sanitary circumstances and Administration of the Holsworthy Urban District. 5 pp., fp. London, 1901.

——— Dr. S. Monckton Copeman's Report on the General Sanitary Circumstances and Administration of the Alcester Rural District. 13 pp., fcp. London, 1901. *W. H. Power, F.R.S.*

London County Council. The Signs and Symptoms of Plague. 9 pp. fcp. London, 1900. *Shirley F. Murphy.*

MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

Aberdeen, 1900	*Matthew Hay, M.D.*
Battersea (San. Insp.), 1900	*Isaac Young.*
Birkenhead, 1900	*R. Marsden, D.Sc., M.B., D.P.H.*
Calcutta, 1900–1	*J. Nield Cook, D.P.H.*

Cardiff, 1900	*E. Walford, M.D., D.P.H.*
Cheshire C.C., 1900	*Francis Vacher, F.R.C.S.*
Durham C.C., 1900	*T. Eustace Hill, M.B., B.Sc.*
Gateshead, 1900	*Reginald Green, M.D., D.Hy.*
Glasgow, 1899, 1900	*A. K. Chalmers, M.D., D.P.H.*
Hackney, 1900	*J. King Warry, M.D., D.P.H.*
Lanark C.C. 1900,	*J. T. Wilson, M.D., D.P.H.*
Lancaster C.C., 1900	*G. R. Parker, M.R.C.S.*
Lancaster (Rural), 1900	*G. R. Parker, M.R.C.S.*
Liverpool, 1900	*E. W. Hope, M.D., D.Sc.*
Newport, 1900	*J. Howard-Jones, D.Sc., M.D.*
Northamptonshire C.C., 1900	*C. E. Paget, M.R.C.S.*
Nottingham, 1900	*P. Boobbyer, M.B.*
Oldham, 1900	*J. B. Wilkinson, M.D., D.P.H.*
Rickmansworth, 1900	*M. Sharman, D.P.H.*
St. Helens, 1900	*F. Drew Harris, M.D., D.P.H.*
Salford, 1900	*C. H. Tattersall, M.R.C.S., D.P.H.*
Southampton, 1900	*A. Wellesley Harris, M.R.C.S., D.P.H.*
——— **(Port)**, 1900	*A. Wellesley Harris, M.R.C.P., D.P.H.*
Sunderland, 1900	*H. Scurfield, M.D., D.P.H.*
Warwickshire C.C., 1900	*A. Bostock Hill, M.D., D.P.H.*
Wiltshire C.C., 1900	*J. Tubb-Thomas, D.P.H.*
Woolwich, 1900	*S. Davies, M.D., D.P.H.*
Wolverhampton, 1900	*H. Malet, B.A., M.D.*
York, 1900	*E. M. Smith, M.D., D.P.H.*

Mason, *C.*, *Assoc.M.Inst.C.E.* Low pressure hot water, with special reference to heating dwelling houses. 12 pp., 8vo. London, 1901. *The Author.*

Melbourne and Metropolitan Board of Works. Melbourne Water Supply and Sewage, by W. Thwaites, M.Inst.C.E. 64 pp., 8vo. Melbourne, 1901. *The Author.*

Metropolitan Asylums Board. Annual Report, 1900 (in 2 vols). 348 pp., 8vo. London, 1901. *The Board.*

New Jersey State Board of Health. Twenty-Fourth Annual Report and Report of the Bureau of Vital Statistics, 1900. 409 pp., 8vo. Trenton, N.J., 1901. *The Board.*

Paris Annales des Ponts et Chaussées. 1re. Partie, Mémoires et Documents relatifs à l'art des constructions et au service de l'Ingénieur, 1re Trimestre. 367 pp. 8vo. Paris, 1901.
2e Partie, Lois, décrets, arrêtes et autres actes concernant l'administration et le Personnel des Ponts et Chaussées et Documents administratifs concernant les pays étrangers, Mai, 1901. 72 pp., 8vo. Paris. *L'Inspecteur Général Secrétaire de la Commission.*

Pettenkofer, *Dr. Max von.* Portrait. *C. Childs, M.A., M.D.*

Rideal, *S.*, *D.Sc.*, *F.I.C.* Sewage and the Bacterial Purification of Sewage. Second Edition. 308 pp., 8vo. London and New York, 1901. Sanitary Publishing Co. *The Publishers.*

Queensland. Report of the Commissioner of Public Health upon Food Preservatives and Adulterated and Unwholesome Food. 11 pp., fp. Brisbane, 1901. *E. Burnett Ham.*

Rodda, *J. T., Assoc.M.Inst.C.E.* Notes on Water Supply. 143 p.p., 4to. London, 1898. *The Author.*

Royal Commission on Sewage Disposal. Interim Report of the Commissioners appointed in 1898 to inquire and report what methods of treating and disposing of sewage (including any liquid from any factory or manufacturing process) may properly be adopted. 13 pp., fcp. London, 1901. *Purchased.*

Smith, *Percival Gordon, F.R.I.B.A.* Hints and suggestions as to the planning of Poor Law Buildings. 151 pp., 8vo. London, 1901. *The Author.*

Switzerland. Mariages, Naissances et Décès en Suisse de 1871 à 1890. Troisième Partie. Première Section: les Décès. 198 pp., 4to. Berne, 1901. *Bureau de Statistique.*

Taylor, *A.* The Sanitary Inspector's Handbook. 408 pp., 8vo. London, 1901. *The Publisher.*

Vacher, *Francis, F.R.C.S.* A Healthy Home. Second Edition. 160 pp., 8vo. London, 1901.

——— The Food Inspector's Handbook. 195 pp., 8vo. London, 1900. *The Author.*

Watts, *W., M.Inst.C.E.* Notes on Drainage Areas. 24 pp., 8vo. 1897.

——— Detecting and preventing the pollution of Public Water Supplies. 8 pp., 8vo. 1901. Excerpts Transactions of British Association of Water Works' Engineers. *The Author.*

Whitaker, *W., B.A., F.R.S.* Presidential Address to the Croydon Microscopical and Natural History Club. 17 pp., 8vo. 1900.

——— Kentish Well. Sections, in the Rochester District. 17 pp., 8vo. 1901.

——— Twelve Years of London Geology (general, recent, and drift). 28 pp., 8vo. Reprint from the Proceedings of the Geologists' Association. 1901. *The Author.*

West Riding C.C. Report of the County Medical Officer upon the Sanitary condition of the Selby Union. 37 pp., fcp. Wakefield, 1901. *James R. Kaye, M.B.*

In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter.

Anon. Practical Hints on the Erection of Baths and Washhouses for Public Use and in Factories. Published by Andrew & Suter.

Archibald, *Douglas, M.A.* Sewage Treatment—Disposal and Utilisation.

Bernheim, *Dr. Samuel.* La Tuberculose et la Médication Créosotée.

Blaschko, *Von Dr. A.* Hygiene der Prostitution und venerischen Krankheiten.

Buchanan, *Major W. J., B.A., M.B.* A Manual of Jail Hygiene for the use of Medical Subordinates. Second Edition.

Christy, *Cuthbert, M.B., C.M.* Mosquitos and Malaria: summary of knowledge on the subject up to date, with an account of the natural history of some mosquitos.

Egbert, *Seneca, A.M., M.D.* A Manual of Hygiene and Sanitation. Second Edition.

Gayton, *Dr.* The Value of Vaccination as shown by an Analysis of 10,403 cases of Small-pox. Third Edition.

Harrison, *Eveleen.* Home Nursing: Modern Scientific Methods for the care of the Sick.

Hennell, *Thomas, M.Inst.C.E.* Hydraulic and other Tables for Purposes of Sewerage and Water Supply. Second Edition.

Kelynack, *T. N., M.D., M.R.C.P.* Arsenical Poisoning in Beer Drinkers.

Lake, *R., F.R.C.S.* Laryngeal Phthisis.

Law, *H.*, and **Clark,** *D. K.* The Construction of Roads and Streets. Sixth Edition, revised, with additional Chapter by **Wallis-Tayler,** *A. J., Assoc.M.Inst.C.E.*

Leffmann, *H., A.M., M.D.*, and **Beam,** *W., A.M., M.D.* Food Analysis.

Mays, *T. T., A.M., M.D.* Pulmonary Consumption, Pneumonia, and allied Diseases of the Lungs.

Moore, *Veranus A., B.S., M.D.* Laboratory Directions for Beginners in Bacteriology. Second Edition.

Munson, *Capt. Edward L., A.M., M.D.* The Theory and Practice of Military Hygiene.

Muthu, *D. J. Chowry, M.D.* Some Results of Sanatorium Treatment of Phthisis.

Newman, *George, M.D., F.R.S.Ed.* Bacteria, especially as they are related to the Economy of Nature, to Industrial Processes, and to the Public Health. Second Edition.

Pujade, *Dr. P.* La Cure de la Tuberculose.

Ribbert, *Von Prof. Dr. Hugo.* Ueber die Ausbreitung der Tuberkulose im Korper.

Roberts, *Major Ernest, D.P.H.* On some Practical Methods of Sanitation in India, with special reference to Cantonments.

Roberts, *R. Lawton, M.D., D.P.H.* Illustrated Lectures on Nursing and Hygiene. Third Edition.

Ruhemann, *Von Dr. J.* Aetiologie und Prophylaxe der Lungentuberkulose.

Vacher, *F.* Defects in Plumbing and Drainage Work. New Edition.

Waite, *Surg-Capt. H.* How to keep "Fit"; or the Soldier's Guide to Health in the Field, Camp, and Quarters.

GENERAL NOTES.

British Congress on Tuberculosis.—This Congress was held in London from the 22–26th July, 1901, under the Patronage of His Majesty The King and the Presidency of Field Marshal H.R.H. The Duke of Cambridge.

The number of home and foreign delegates appointed, and the attendances at the meetings, testified to the great interest taken in the subject of the Congress and to the efforts that are being put forth to combat the different forms of the disease.

The opening ceremony was held at St. James's Hall on the 22nd, and was presided over by H.R.H. The Duke of Cambridge on behalf of H.M. the King, supported by the Duke of Northumberland, the Marquis of Lansdowne, and the officers of the Congress. The Lord Mayor of London welcomed the foreign delegates, who were afterwards presented to the President.

Amongst the more interesting addresses was the one given at the Second Ordinary General Meeting by Prof. Robert Koch the eminent German authority on consumption, entitled "The Combating of Tuberculosis in the light of the experience that has been gained in the successful combating of other infectious diseases."

Dr. Koch said that the task with which the Congress would have to busy itself was one of the most difficult, but one, nevertheless, in which labour was most sure of reward. He did not share the opinion of those who doubted the possibility of successfully combating tuberculosis, as it was a conflict which might be entered into with a surely founded prospect of success. Dealing with the cause of tuberculosis Dr. Koch quoted facts and experiments which, he stated, justified him in maintaining that human tuberculosis differed from bovine, and that it could not be transmitted to cattle. It was impossible to give the question "as to whether man was susceptible to bovine tuberculosis" a direct answer, because experimental investigation with human beings was out of the question. Indirectly, however, it could be approached.

Many doctors, he stated, were of opinion that human beings were infected with bacilli of bovine tuberculosis by the consumption of alimenta containing tubercle bacilli. In reality this was not so. That a case of tuberculosis has been caused by alimenta can be assumed with certainty only when the intestines suffered first. But these cases were extremely rare. It was agreed by all that the main source of infection was the sputum of consumptive patients, and Dr. Koch was of the opinion that the spread of the disease would be largely diminished by provision being made that the sputum of consumptives should be properly removed and rendered innocuous. This is done, to some extent, by the well-to-do classes, who are able to obtain the necessary nursing, but it is very difficult to carry out in the case of the overcrowded dwellings of the poorer classes, which must be regarded as the real breeding places of the disease.

Dr. Koch pointed to the founding of special hospitals for consumptives, and the better utilisation of the already existing hospitals as the most important measure for combating tuberculosis. He regarded obligatory notification as specially valuable, and the better education of the public as to the infectious nature of tuberculosis as a further important measure.

With regard to sanatoria it was a question as to whether the number of persons cured in this way is great enough to exercise an appreciable influence on the retrogression of tuberculosis. While Dr. Koch did not wish to oppose the movement for the establishment of sanatoria he wished to give a warning against over-estimating their importance, and also against the opinion, which had been expreseed in various quarters, that the war against tuberculosis could be waged by means of sanatoria alone.

At the conclusion of Dr. Koch's address Lord Lister said that the point that had riveted the attention of the audience was the startling thesis that bovine tuberculosis could not develop in the human body. This was a matter of enormous practical importance, because if this conclusion were sound it would greatly simplify preventive measures; but, on the other hand, it would be a very serious and grievous thing if the rules now in force for securing the purity of the milk supply should be relaxed, and it should turn out after all that the conclusion was erroneous.

The opinion expressed by Dr. Koch was taken into consideration in framing Resolutions 5 and 6 passed at the close of the Congress, and which are set out below. As an outcome of these resolutions a Royal Commission has been appointed to report whether tuberculosis in animals and man is one and the same disease; whether animals and man can be reciprocally infected with it; under what conditions, if at all, the transmission of the disease from animals to man takes place; and what are the circumstances favourable or unfavourable to such transmission.

In a circular recently issued to the local authorities the Local Government Board urge that, pending the report of the Royal Commission, the precautions taken for dealing with tuberculous meat and milk should not be relaxed.

The circular also urges the desirability of uniformity of action on the part of local authorities with regard to carcases partially or generally affected, as suggested in the Report of the Royal Commission in 1898.

The circular further states that it is of much importance that a person who is to act as a Meat Inspector should possess proper qualifications for the office, a point that the Sanitary Institute have endeavoured to meet by their examinations for this office.

At the Third General Meeting Dr. P. Brouardel (Dean of the faculty of Medicine of Paris) gave an address on the measures adopted by different nations for the prevention of consumption, which was listened to by a large and interested audience. In the course of his address Dr. Brouardel touched upon the necessity for educating public opinion as to the infectious nature of tuberculosis as a necessary step precedent to legislative regulations. He described, generally, what had been done by different nations with regard to the improvements of workmen's houses.

At the Fourth General Meeting Earl Spencer, and later Sir James Crichton Browne in the chair, Dr. John Macfadyean (Professor of Comparative Pathology and Bacteriology, Royal Veterinary College) gave an address on Tubercle Bacilli in cows' milk as a possible source of tuberculous disease in man.

In the sections the subject of the Congress was considered from the sanitary as well as the purely medical point of view.

Section I. dealt with legislative measures that have been adopted by the states and municipalities, and under this heading the notification of tuberculosis, the prevention of tuberculosis during childhood, and the administrative measures that have been taken for the control of the public sale of tuberculous meat and milk, were all discussed. Section II. was devoted to discussing the subject from the medical standpoint, including climatology and sanatoria.

The pathological and bacteriological aspects of consumption were considered in Section III., and the veterinary members of the Congress discussed the question of tuberculosis in animals in Section IV.

The work of the Congress is summarised in the following resolutions which were unanimously approved in the closing meeting:—

1. "That tuberculous sputum is the main agent for the conveyance of the virus of tuberculosis from man to man, and that indiscriminate spitting should therefore be suppressed."

2. "That it is the opinion of this Congress that all public hospitals and dispensaries should present every patient suffering from phthisis with a leaflet containing instructions with regard to the prevention of consumption, and should supply and insist on the proper use of a pocket spittoon."

3. "That the voluntary notification of cases of phthisis attended with tuberculous expectoration, and the increased preventive action which it has rendered practicable, has been attended by a promising measure of success, and that the extension of notification should be encouraged in all districts in which efficient sanitary administration renders it possible to adopt the consequential measures."

4. "That the provision of sanatoria is an indispensable part of the measures necessary for the diminution of tuberculosis."

5. "That in the opinion of this Congress and in the light of the work that has been presented at its sittings, medical officers of health should continue to use all the powers at their disposal, and relax no effort to prevent the spread of tuberculosis by milk and meat."

6. "That in view of the doubts thrown on the identity of human and bovine tuberculosis, it is expedient that the Government be approached and requested to institute an immediate enquiry into this question, which is of vital importance to the public health and of great consequence to the agricultural industry."

7. "That the educational work of the great national societies for the prevention of tuberculosis is deserving of every encouragement and support. It is through their agency that a rational public opinion may be formed, the duties of public health officers made easier of performance, and such local and State legislation as may be requisite called into existence."

8. "That this Congress is of opinion that a permanent international committee should be appointed (*a*) to collect evidence and report on the measures that have been adopted for the prevention of tuberculosis in different countries; (*b*) to publish a popular statement of these measures; (*c*) to keep and publish periodically a record of scientific research in relation to tuberculosis; (*d*) to consider and recommend measures of prevention. This Congress is further of opinion that all international and great national societies whose object is the prevention of tuberculosis should be invited to co-operate."

9. "That in the opinion of this Congress, overcrowding, defective ventilation, damp and general insanitary conditions in the houses of the working classes diminish the chance of curing consumption and aid in predisposing to and spreading the disease."

10. "That the following question be submitted for the consideration of the next congress on tuberculosis:—The constitutional conditions of the individual which predispose to tuberculosis, and the means by which they may be modified."

11. "That while recognising the great importance of sanatoria in combating tuberculosis in all countries, the attention of Government should be directed to informing charitable and philanthropic individuals and societies of the necessity for anti-tubercular dispensaries as the best means of checking tubercular diseases among the industrial and indigent classes."

A very interesting museum was formed during the Congress and consisted of three sections: Pathology and Bacteriology, Public Health, and Architecture.

On Monday the officers of the Congress held a reception in the Queen's Hall, and on Tuesday evening the members and delegates were received at the Mansion House by the Lord Mayor of London and Lady Mayoress. The Institute entertained the members and delegates of the Congress in the Parkes Museum on July 25th; the visitors were received by the Chairman of Council and Mrs. Wynter Blyth, the Vice-Presidents, and Members of Council.

All through the week the meetings were characterised by an enthusiasm and earnestness which showed how deeply those interested in the public welfare realized the urgent necessity of energetic and stringent measures being taken against the spread of tuberculosis in all its branches, and we feel sure that the delegates and members of the Congress left with a determination not to abate but rather to renew with increased vigour their efforts in the combating of this terrible disease.

L. C. P.

PARKES MUSEUM NEW BUILDING AND ENDOWMENT FUND.

PRELIMINARY LIST OF DONATIONS.

Amounts already reported:

	£	s.	d.
Capital allotted	6,000	0	0
Vice-Presidents	258	0	0
Members of Council	95	6	0
Members and others	120	10	0

Since the last report the following donations have been made:—

Additional amounts:

Leeds Fire-clay Company	100	0	0
Miss Back	10	0	0
Dr. Jaeger's Sanitary Woollen System Co., Ltd.	10	10	0
John Jones	10	0	0

Donations to the Douglas Galton Gallery:

Mrs. Leonard Cunliffe	25	0	0
Mrs. Trench Gascoigne	10	0	0

Kenny & Co., Printers, 25, Camden Road, London, N.W

Volume XXII.—Part IV.] [January, 1902.

SUPPLEMENT TO THE JOURNAL OF THE SANITARY INSTITUTE.

REVIEWS OF BOOKS.

AN INTRODUCTION TO THE BACTERIOLOGICAL EXAMINATION OF WATER.*

In the bacteriological examination of water, apart from the mere enumeration of the number of organisms capable of growing at "room-temperature" and at "blood-heat," and special search for any pathogenic forms that may be suspected, the actual significance of the different bacteria isolated, whether they occur in pure waters or only in sewage and impure water, is of vital importance, and in this book the author has endeavoured to arrange the micro-organisms into three classes: (1) Bacteria found in pure water; (2) Bacteria which are common in sewage but rarely met with in pure water; and (3) Bacteria which give rise to specific disease in human beings. Under class 3 only two pathogenic organisms are dealt with, the typhoid bacillus and Koch's cholera spirillum, but these two, especially the former, are discussed at great length, numerous recipes being given for the preparation of the various nutrient media that have been proposed from time to time for isolating typhoid, and very full particulars of recent work on the serum agglutination test.

The details given of the frequency and duration of the colon bacillus, staphylococci and streptococci, thermophylic bacteria and Klein's B. enteritidis sporogenes in sewage and water are very valuable, as great reliance is now placed on the presence of these organisms as indicating pollution. The detection of coli in a water without reference to the quantity examined is not now considered absolutely condemnatory, and the author suggests 200 c.c. as about the minimum limit, and finds, in agreement with Klein, Houston and other investigators, that in water recently polluted with sewage, even in the dilution of 1 in 100,000, the presence of coli can be readily demonstrated in 1 c.c., whereas such pollution would not be detected by any known chemical method. One of the last chapters contains an interesting account of the bacterial testing of water filters, and shows the importance of the temperature at which the filter is maintained, and the presence of organic matter in the water being filtered as influencing the growth of bacteria through the filtering material. In view of the stress recently laid upon the importance of preparing the nutrient gelatine employed in bacteriology with a constant degree of alkalinity to litmus, or acidity to phenolphthalein indicator, it is somewhat surprising to note that, although the conclusions of the American Committee of Bacteriologists on this point are given in an earlier part of the book, in the last chapter which is mainly devoted to the preparation of nutrient media, one is only instructed to render "faintly alkaline with sodium carbonate solution," which might give divergent results under various operators.

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* By W. H. Horrocks, M.B., B.Sc. London: J. & A. Churchill. 300 pp. 8vo. Price 10s. 6d.

The book, which consists of some 300 pages, contains a short bibliography and five plates showing a number of gelatine colonies of the more important bacteria; these are apparently from pencil drawings, and would be of more value if they were reproductions from photographs. A work of this description is necessarily of a technical nature, but it is very readable, well up-to-date, and contains a considerable amount of original research; the descriptions of the cultural characters and the morphology of the various bacteria are compiled with great care, and should prove of service to those interested in the bacteriology of water.

S. R.

PUBLIC HEALTH AND HOUSING.*

THE INFLUENCE OF THE DWELLING UPON HEALTH IN RELATION TO THE CHANGING STYLE OF HABITATION.

These are the Milroy Lectures delivered by Dr. Sykes before the Royal College of Physicians, London, 1901, and are a notable contribution to the literature of the subject. In the first chapter Dr. Sykes discusses the effects upon health produced by crowding of population on superficial area, and crowding in dwellings (persons per acre, and cubic space per head), and a number of instances are quoted of the high death-rates, especially from phthisis and respiratory diseases, which are associated with overcrowding. The effects of certain kinds of dwelling-houses, such as street blocks of houses, back-to-back houses, stable dwellings, tenement houses, underground dwellings, and "Flat" houses, are next discussed, together with the sanitary defects inherent in many existing dwellings of the kinds above specified. Part II. deals with construction and misconstruction, as applied to streets and street-blocks, and to various classes of domestic buildings used as family dwelling-places, which Dr. Sykes classifies as the horizontal, the vertical, and the vertico-horizontal—the horizontal being a one-storeyed cottage, the vertical an ordinary house in one or more storeys, and the vertico-horizontal essentially consisting of horizontal dwellings superimposed upon one another, and approached by a common staircase and entry. The various ways in which the latter type—more commonly known as "block" dwellings—are constructed and misconstructed are fully set out, and Dr. Sykes' views are worthy of the most careful study by architects and local authorities contemplating the erection of block-dwellings for the working classes. Part III. deals with usage and misusage of houses, and dwellings are classified according to usage, a chapter being usefully devoted to "made-down" tenement houses and tenement dwellings. Dr. Sykes institutes a comparison between life in a flat and life in a tenement dwelling, which is very much to the disadvantage of the latter. Cleanly habits and the decencies of life cannot be maintained where the appliances for cleanliness are not at hand for the use of the tenant, and much labour is involved in carrying clean water upstairs, and dirty water down. Dr. Sykes advocates as a remedial measure the structural adaptation of tenement houses to their present uses, where such houses are well situated as to light and air, and well constructed. A similar measure was advocated by the late Mr. Bannister Fletcher thirty years ago, but practically nothing has been done in London in this direction. Dr. Sykes thinks that private owners as well as municipal authorities might take this work in hand, and that it would be productive of good results. A brief review of the housing question brings the Lectures to a fitting close. L. C. P.

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* By John F. J. Sykes, M.D., D.Sc. London: P. S. King & Son. 224 pp., Cr. 8vo. Price 5s.

HANDBOOK OF PUBLIC HEALTH.*

In his preface the author states that although there are several text books of Public Health, it seems to him that there is need for another.—"For the medical student preparing for his degree examination most of the text books are somewhat large, and the details entered into tend to render it difficult for him to extract the information which it is essential for him to be conversant with."

Surely there are enough and to spare of small text books which are well designed to convey this information; but even if the want were a real one, the author of this work cannot be said to have satisfactorily met it. It is by no means hypercritical or unfair to state that every chapter of the work (save that upon Communicable Disease) bears evidence of the fact that the author is not well informed on his subject. In justification of this statement, it will suffice to take but one or two instances of many in which erroneous statements make it impossible for one to recommend this book. One cubic foot of coal gas is said to produce by combustion nearly two cubic feet of carbonic acid. It is pronounced "certain that all the pathogenic properties which have been present in the water are abstracted by the very adequate removal of bacteria by sand filtration." "What is termed the hardness of water is due to the ability of water to take up and dissolve a certain quantity of calcic carbonate." Chlorides in water are estimated by collecting, drying, and weighing the silver chloride thrown down by the addition of silver nitrate and nitric acid. Ammonia gives a brown precipitate with Nessler's reagent, but "if the quantity of ammonia is very minute, the liquid assumes merely a yellowish brown colour." The lead safe tray of a water closet is drained "by a pipe either leading to the soil-pipe, or better, being carried through the wall into the open air." Sewage may be dealt with by simple straining; "In this method the sewage is strained through beds of charcoal and ashes, the solids being retained and the effluent permitted to escape." In chemical treatment, after lime has been added and the solids are deposited, the effluent is allowed to pass off into a convenient running stream or other outlet. The effluent from the septic tank is said to be afterwards conveyed on to the land and treated by intermittent downward filtration. In disinfection of a sick room, the room is first freely exposed to the air, the wall papers then stripped and the woodwork washed with disinfectant, and finally the room is fumigated; and, in calculating "the expectation of life," the reader is told that he must make such "allowance for such extraneous modifying factors as emigration and immigration."

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* By John Orr, M.D. E. & S. Livingstone. Edinburgh, 1902. 236 pp. Price 4s.

H. R. K.

SEWAGE AND THE BACTERIAL PURIFICATION OF SEWAGE.*

The first edition of this work has been rapidly sold out, and this circumstance is sufficient testimony to the general appreciation which it has met with. The book well deserves its success, for it is a most careful and up-to-date statement upon the important subject of Sewage Purification by one who is justly regarded as a high authority.

It is from the standpoint of the scientific treatment of the matter that the work is so valuable, and of course other works must be consulted by those who have to make themselves acquainted with the engineering details of the various methods which the author outlines.

Amongst the new matter introduced into the second edition is the Interim Report of the Royal Commission appointed in 1898 to inquire into and report upon the methods of treating and disposing of sewage. The chapter on Bacterial Purification has been very considerably extended by the addition of much new and important work, and on this subject Dr. Rideal has exercised great discretion in his treatment of matters which may be regarded as still *sub judice*. The work may be strongly recommended to all those who are interested in the important subject with which it deals. The only matter to which some may take exception is the title which the Author gives to his work. It is true that the natural purification of sewage has come to be popularly termed "bacterial" purification, but none knows better than the author that the term is unscientific. Under the circumstances, therefore, the term "biological" would have been more in place when used in connection with the title of what is so essentially a scientific work. H. R. K.

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* By Samuel Rideal, D.Sc. London, 1901. Sanitary Publishing Co., Ltd. 308 pp. Price 14s. nett.

ELEMENTARY PRACTICAL HYGIENE.*

It is as the writer of this work points out: The study of Domestic Science is too frequently pursued in such a manner that the student forms but vague ideas of the physical and chemical laws on which the science is based, with the result that many of the expressions used convey to his mind but a feeble impression of their true meaning; consequently we find that, though the student may use the correct words, it is too often evident that he has no adequate conception of their real and practical significance.

The object of this work is to provide the student with a practical guide to elementary physics and Chemistry, as far as is necessary to form a sound basis for the study of domestic science. The student is led through a series of simple exercises and experiments, each of which may be readily performed with apparatus of the simplest possible kind, and the scope of the book appears to fully cover section 1 of the Elementary Hygiene Syllabus of the Board of Education. As a result of a careful perusal we have no hesitation in stating that the author has well fulfilled this object of the work. The subject matter is correct, happily expressed, and very fully illustrated. H. R. K.

HINTS AND SUGGESTIONS AS TO THE PLANNING OF POOR-LAW BUILDINGS.†

This book contains well-digested facts and valuable suggestions relating to this class of buildings, of which the author has had a unique experience as Architect to the Local Government Board. Simplicity and economy are insisted upon, and the "lavishness that is continually being proposed by elected bodies in connection with so many public buildings of the class referred to in the present work" is discountenanced.

The methods of selecting architects to design these special buildings are criticised in a reasonable, just, and practical manner; this difficult and often delicate duty is discussed from the point of view of a disinterested specialist, conversant with all the details, fortified by long experience.

The practical, sound common-sense which pervades this book is specially apparent in the references to warming and ventilation. The author's great experience has led him to distrust much-advertised, costly "ventilators," "extractors," long tubes or trunks, inaccessible air ducts, flues, etc., and to insist that hot water pipes must be fixed above the floor and not sunk in channels beneath it.

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* By William S. Furneaux. London, 1901. Longmans, Green & Co. 239 pp. Price 2s. 6d.

† By Percival Gordon Smith, F.R.I.B.A., F.San.Inst., etc. London, 1901. Knight & Co. 151 pp.

Almost all the details of these buildings, including fittings, are considered and explained, and much of the information will be found applicable to structures other than those known as Poor-Law Buildings. J. O. S.

THE SURGICAL & MEDICAL HISTORY OF THE NAVAL WAR BETWEEN JAPAN AND CHINA, DURING 1894–5.*

Translated from the original Japanese by S. Suzuki, under the direction of Baron Saneyoshi, Director-General of the Medical Department of the Imperial Japanese Navy. 1901.

Several voluminous reports have been published dealing with the wounds received in wars on land, but of modern naval warfare we possess no medical history. This volume, dealing with the experience of Japanese naval surgeons in the war with China, constitutes an important and valuable contribution to this literature. In this war of 1894–5, the naval battles of Phung-do and Yalû, the attacks of the Japanese upon Tau-chow, Wei-hai-wei, the Pescadores, and those upon Keeling, Taku, and Anping in Formosa were the principal engagements. The volume under review gives in detail the various experiences of individual ships in these engagements, together with exact descriptions of the more important and interesting surgical cases. These do not lend themselves to review, but the numerous excellent plates and drawings painfully emphasize the gravity of the injuries received by men, the enormous damage done to ships and fittings by shells which penetrate and explode within the hull; and, too, the hopeless inability of those on board to escape from the havoc which a modern shell works within a ship, once it penetrates the protecting armour.

The report includes accounts as to prevalence of enteric fever, cholera, dysentery, and kak'ke or beri-beri. This last disease has practically disappeared from the Japanese Navy since the improvement in the dietaries effected in 1884. The volume is well printed and illustrated, and highly creditable to the medical service of the Japanese navy. R. H. F.

SCHOOL HYGIENE.†

In the editor's introduction to this book it is claimed that "the author brings the essential facts of school hygiene or school health within the reach of any inquiring parent or teacher."

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* By Director-General, Medical Department, Japanese Navy. 544 pp., 4to. Tokio, 1901.

† By Edward R. Shaw, Professor of the Institutes of Pedagogy, New York University. 260 pp. The Macmillan Company, New York; and Macmillan & Co., Ltd., London.

The first three chapters deal with the School-room, the School-building, and School-grounds. Great stress is rightly laid upon the necessity of carefully considering the requirements of the school buildings, and the elaboration of details before undertaking construction. The school-room should be the unit in planning a school-building, and should receive the first consideration. The size and form of the school-room, the lighting, warming, and ventilation, the arrangement of desks, and the details of structure are considered in succession.

Other chapters treat of sanitation, school baths, school furniture, postures and physical exercises, eyesight and hearing, handwriting, conditions conducive to healthy mental work, and diseases which concern the school.

Much useful information is conveyed in the description of the right methods of lighting the school-rooms, the proper construction of desks, and the best approved methods of education in writing. The author has done good service in insisting upon attention being given to the defects in eyesight and hearing common amongst children, through which defects their alacrity and capabilities are so frequently misjudged by their teachers, and to the unpardonable use of faulty and too small type by which the eyesight is so much deteriorated.

The author deals chiefly with the hygienic requirements of day schools. For boarding schools more complete information is required with regard to many important details. The book is well and copiously illustrated. C. C.

NOTES ON BOOKS AND PAPERS IN TRANSACTIONS.

"Practical Sanitation: A Handbook for Sanitary Inspectors and others interested in Sanitation," by George Reid, M.D., D.P.H., with an Appendix on Sanitary Law, by Herbert Manley, M.A., M.B., D.P.H. Eighth Edition. 346 pp., 8vo. London, 1901. *C. Griffin & Co.* Price 6s.

Already well known to Sanitary Inspectors and widely read by those preparing for Examinations as such, this edition (the eighth within ten years) is revised and brought up to date.

In ten chapters the subjects dealt with are: Brief History of Sanitary Science—Water Supply, Drinking Water, Pollution of Water—Ventilation and Warming—Sewerage and Drainage—Sanitary and Insanitary Works and Appliances—Details of Plumbers' Work—Sewage and Refuse Disposal—House Construction—Infection and Disinfection—Food.

An appendix, covering 60 pages, gives a short and summarised form of the principal Acts of Parliament and Local Government Board Orders and Memoranda which concern Inspectors of Nuisances.

"The Public Health Act, 1875, and other Statutes and parts of Statutes relating to the Public Health, with Index," by Frederic Stratton. 8vo. London, 1901. *Knight & Co.* Price 7s. 6d.

Some forty-five of the Acts of Parliament relating to sanitary matters are here brought together for reference by students and others.

The Publishers point out that this Volume does not contain the whole of the Law on the subject, and for this the reader is referred to the complete and more expensive works on Public Health Law.

"Sanitary Fittings and Plumbing," by G. Lister Sutcliffe, A.R.I.B.A. 275 pp. (212 Illustrations), 8vo. London, 1901. *D. Fourdrinier.* Price 5s.

The author's purpose is to enunciate the general principles now governing the design of sanitary work in buildings, and describe and illustrate the most important sanitary fittings and the plumbers' work in connection with them. The greater part of the book appeared as a series of articles in the *Builder* early in 1901.

Among the fittings dealt with in twenty-four chapters are: Baths—Sinks—Lavatories—Water Closets and Latrines—Urinals—Traps—Waste and Soil Pipes.

In an appendix will be found the By-Laws of the London County Council regarding Water Closets, Privies, &c., made under the Public Health (London) Act, 1891; the Drainage By-Laws, made under the Metropolis Management Act of 1855, Section 202.

ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

Abstracts of Titles classified in this List under the following headings:—

Science in Relation to Hygiene and Preventive Medicine.

Hygiene of Special Classes, Trades and Professions, and Municipal Administration.

Building Materials, Construction, and Machinery.

Water Supply, Sewerage, and Refuse Disposal.

Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.

Science in relation to Hygiene and Preventive Medicine.

Chapman, Alfred C., F.I.C. Arsenic in Coal and Coke. *The Analyst*, October, 1901, p. 253.

Owing to the necessity of obtaining malting fuel as free as possible from arsenic, the detection and estimation of that element in coal and coke is a matter of importance. The paper goes into the general subject of arsenic in fuel, and describes a simple method for the quantitative estimation of the arsenic which yields approximately accurate results.

Fowler, Gilbert J. M.Sc., F.I.C. The Management of Septic Tanks and Bacterial Beds. *The Journal of State Medicine*, October, p. 626.

Martin, Arthur J., A.M.Inst.C.E. Five Years' Experience of the Septic Tank System. *The Journal of State Medicine*, October, 1901, p. 637.

Richmond, H. Droop, F.I.C. The Composition of Milk. *The Analyst*, December, 1901, p. 30.

Gives the results of the analysis of 29,482 samples of milk, examined for the Aylesbury Dairy Company during the year 1900, together with some important points bearing upon the subject of the constitution of certain of the non-fatty solids in milk.

Richmond, H. Droop, F.I.C. The use of partially sterilised Milk Cultures in judging the purity of water. *The Analyst*, October, 1901, p. 262.

Gives results of 80 experiments on the lines suggested by Klein for determining the pressure of B. sporogenes enteritidis and other organisms in water.

Koch, Prof. **Robert**. Malaria. *The Journal of State Medicine,* October, 1901, p. 613.

Deals with preventive measures against the disease.

Rieder, Dr. W. Der Abdominaltyphus in Riga im Jahre 1900. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 4, p. 557.

This is an interesting description of an epidemic of typhoid fever at Riga in Russia in the year 1900, which was caused, according to the Author, by the drinking water of the town having become infected. The supply is derived from the River Duena, above the town, but is not filtered.

Smith, William R., M.D., D.Sc. The Outbreak of Small-pox in London. *The Journal of State Medicine*, November, 1901, p. 675.

Spiess, Dr. A. Neu erschienem Schosften über öffentliche Gesundheitspflege. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 4, p. 633.

This is a most valuable index in 207 pp. dealing with the whole literature of public health during the last twelve months. It comprises publications in the English, German, French, Italian, and other languages.

Stoddart, F. Wallis, F.I.C. The Incubator Test for Sewage Effluents. *The Analyst*, November, 1901, p. 281.

Suggesting modifications in the usual method of applying the incubation test of sewage effluents.

Weaver, J. J., D.P.H. "Fourth Disease." *The Journal of State Medicine*, November, 1901, p. 700.

Describing the nature of a malady which has been termed "Fourth Disease," because it is an additional disease to the other three diseases (Scarlet Fever, Measles, and German Measles) closely resembling Scarlet Fever, and very apt to be mistaken for it.

Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

Aldwinckle, T. W., F.R.I.B.A. The new St. Pancras Baths. *The Builder*, October 19th, 1901, p. 344.

Description of the buildings. Plans and elevations were published in *The Builder* of September 23rd, 1899.

"BUILDER," EDITOR OF THE. The new drainage By-laws of the London County Council. *The Builder*, September 28th, 1901, p. 266.

Criticism of various By-laws.

HALL, EDWIN T., F.R.I.B.A. Sanatoria for Consumptives. *The Surveyor*, August 30th, 1901, Supplement.

Some typical buildings—selection of site—disposal of the sewage—The Falkenstein Institution and similar ones in Germany—descriptions thereof—English institutions.

VICKERS-EDWARDS. Asylums or Homes for the Insane. *The Surveyor*, August 2nd, 1901, pp. 128–30.

Asylum construction—drainage, heating, and ventilation—lighting—descriptions of hospitals visited by the author in Germany and Scotland.

WEAVER, WM., M.Inst.C.E. Municipal administration. *The Surveyor*, September 13th, 1901, Appendix.

Sewerage and drainage—water supply—habitations and their occupants—highways—refuse—concluding observations.

Water Supply, Sewerage and Refuse Disposal.

CAMPBELL, K. F., M.Inst.C.E. Researches into the system of Sewage Purification at Huddersfield by bacterial and other methods. *The Surveyor*, September 6th, 1901, Supplement.

Experiments at Huddersfield—"trade sewage"—contact beds—analyses—the open septic system—conclusions arrived at after three years investigation.

CLOWES, Professor FRANK, D.Sc. The general and experimental treatment of the Sewage of the Metropolis. *The Surveyor*, September 6th, 1901, pp. 277–78.

Present treatment—experimental treatment—results of experimental bacterial treatment in coke beds—bacterial disposal of sludge.

INGHAM, WILLIAM, A.M.Inst.C.E. The design, construction, and cost of open and covered service reservoirs. *The Surveyor*, August 2nd, 1901, pp. 136–7.

The design of service reservoirs—reservoir fittings—reservoir construction and materials for same—methods of covering—cost of construction—comparisons of circular and rectangular reservoirs.

JONES, Colonel A. S., V.C., A.M.Inst.C.E. Sewage Treatment. *The Surveyor*, September 6th, 1901, Supplement.

Science with practice—survey of recent experiments in sewage treatment—sewage farms—Aldershot camp—conclusions as to the construction of disposal works.

Mc'Donald, A. B., M.Inst.C.E. The disposal of Sewage. *The Surveyor*, September 13th, 1901, Supplement.

The main drainage of Glasgow—intercepting sewers—chemical precipitation—comparisons of cost of precipitation works and works for bacterial treatment—notes on sludge obtained from the septic tank—report of the working of the Dalmarnock Sewage Works.

Melvin, G. W. Modern developments in Refuse destruction. *Building News*, August 9th, 1901, p. 172.

Refuse destruction—forced draughts—utilization of surplus heat for power—value of refuse for generating purposes—dust catchers—value and methods of dealing with clinker, &c.

Pickering, J. S., Assoc.M.Inst.C.E. Municipal Work in Nuneaton—Sewage Disposal. *The Surveyor*, October 25th, 1901, pp. 488–9.

Difficulty of disposal on account of foul character of the sewage—success of bacterial system—contact beds, roughing beds, septic tanks—reduction in liquid capacity of coarse grain beds—the new sewage disposal works.

Shone, I. The House and Town Drainage Systems of the Twentieth Century. *The Surveyor*, August 23rd, 1901, p. 227.

Suggestions for obtaining a practically perfect drainage system—leading principals to be observed with regard to ventilation—the control of air in sewers—sewage disposal.

Heating, Lighting, and Ventilating.

Cookson, Sir C. A., K.C.M.G. A Smokeless London. *The Journal of State Medicine*. November, 1901, p. 692.

London fog and smoke—non-smoke producing furnaces—coal—smoke from domestic fires—smokeless fuels—anthracite and coke.

Wedding, Prof. Dr. W. Ueber den Werth der verschiedenen Arten Rünstlicher Beleuchtung. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Bd. XXXIII., Heft 4, p. 607.

The Author critically reviews the value of the different kinds of artificial light under the following heads: Brightness, manipulation, colour and glaring propensities, absence of products of combustion, production of heat and cheapness.

MEETINGS HELD, OCTOBER TO DECEMBER, 1901.

CONFERENCE ON WATER SUPPLY AND RIVER POLLUTION.

The Conference took place in St. Andrew's Hall, Newman Street, London, W., on October 16th and 17th, 1901. The Conference papers were printed and circulated to the Delegates, so that the whole time of the Conference was given to the discussion, which took place in the mornings, and the afternoons were devoted to visits to the East London Water Company and Staines Reservoirs.

Delegates were appointed to attend the Conference representing 137 Sanitary Authorities.

A full report of the Conference is given in the Jourual, p. 453.

The Exhibition of Water Supply Fittings was held in the same building, and was open from October 16th to 18th inclusive, and the Council desire to thank the following gentlemen, who so kindly lent Plans and Models: C. Childs, M.A., M.D.; Prof. W. H. Corfield, M.A., M.D.; Alderman Gascoigne; Percy Griffiths, A.M.Inst.C.E.

WATER SUPPLY FITTINGS EXHIBITION.

OCTOBER 16TH TO 18TH, 1901.

LIST OF AWARDS.

SILVER MEDALS.

GEORGE KENT, 199—202, High Holborn, London, W.C.
Combined Counter and Diagram Recorder for "Venture" Meter.

J. DEFRIES & SON, LTD., 147, Houndsditch, E.C.
Pasteur-Chamberland Filter.

A. P. SMITH MANUFACTURING Co., 72, Fenchurch St., London, E.C.
Tapping Machine for making large Connections in Water Mains under pressure.

BRONZE MEDALS.

Berkefeld Filter Co., 121, Oxford Street, W.
Berkefeld Filter.

Doulton & Co., Lambeth, S.E.
"Claybury" Self-Closing Non-Concussive Valve.

Doulton & Co., Lambeth, S.E.
Automatic Temperature-Regulating Self-Closing Valves.

Thomas Feather, Exchange Buildings, Mirfield, Yorkshire.
Bevelled Ring for diverting the course of pipes from a straight line.

G. **Jennings, Ltd.**, Lambeth Palace Road, S.E.
Non-Concussive Duplex Supply and Waste Valve for Baths and Lavatories.

George Kent, 199—202, High Holborn, London, W.C.
"Prentice's" Gauge for Hydrants on the Pitot Tube principle.

Shanks & Co., Barrhead, N.B.
Jet Waste-Preventing Cistern.

Townson & **Mercer**, 34, Camomile Street, E.C.
Apparatus for Water Analysis.

EXHIBITS SELECTED FOR FURTHER CONSIDERATION.

Desrumaux Automatic Water Softener and Purifier Co., **Ltd.**, 5, Queen Victoria Street, E.C.
Water Softener and Purifier.

G. **Kent**, 199—202, High Holborn, London, W.C.
Rodda's Improved Automatic Apparatus for taking Samples of Water at any depth.

Lawrence Patent Water Softener and Steriliser Co., **Ltd.**, Norland Works, Notting Hill, W.
Apparatus for Softening and Sterilising Water.

Sanitary Lead-Lining and Pipe-Bending Co., **Ltd.**, 20, John Street, Adelphi, W.C.
Lead-lined Iron Pipes and Fittings.

Slack & **Brownlow**, Gorton, near Manchester.
Germ Filter.

Townson & **Mercer**, 34, Camomile Street, E.C.
Maille Filter.

H. D. SEARLES-WOOD,

Acting Chairman of Judges.

DINNER.

Sir Francis Sharp Powell, Bart., M.P., Vice-President, took the Chair at the Dinner of the Institute, which was held at the Holborn Restaurant on October 17th. About 90 Members, Delegates and Guests were present, amongst whom were Their Worships the Mayors of Dover and West Ham, the Presidents of the Royal Colleges of Physicians and Surgeons, the Chairman, Sanitary Committee, Salford, &c., &c.

CONGRESS, 1902.

The date arranged for the Congress and Exhibition of the Institute in Manchester is September 9th to 13th, 1902, the Exhibition being open until September 27th.

A preliminary meeting was held in the Town Hall, Manchester, by the kind permission of the Lord Mayor, on Friday, December 13th. A very large and representative Local Committee was nominated, and also the Officers and Sub-Committees necessary for carrying out the local arrangements.

The following Officers have already accepted appointment:—

President, The Rt. Hon. the **EARL EGERTON OF TATTON.**

President of Section I., Sir **JAMES CRICHTON BROWNE**, M.D., LL.D., F.R.S.

President of Section II., Sir **ALEXANDER R. BINNIE**, M.INST.C.E.

President of Section III., Prof. **A. SHERIDAN DELEPINE**, M.B., B.SC.

President of Conference of Municipal Representatives, Mr. Alderman **A. McDOUGALL**, Deputy Chairman of Sanitary Committee, Manchester.

President of Conference of Medical Officers of Health, **JAMES NIVEN**, M.A., M.B., M.O.H., Manchester.

EXAMINATIONS.

From October to December the following Examinations were held:—

PRACTICAL SANITARY SCIENCE.

Nov. 1st and 2nd, Norwich. 1 Candidate.

Nov. 15th and 16th, Newcastle. 2 Candidates, 1 Certificate granted.

Nov. 29th and 30th, London. 11 Candidates, 5 Certificates granted.

Dec. 20th & 21st, Manchester. 8 Candidates, 3 Certificates granted.

Inspectors of Nuisances.

Nov. 1st and 2nd, Norwich. 7 Candidates, 4 Certificates granted.

Nov. 15th and 16th, Newcastle-upon-Tyne. 37 Candidates, 16 Certificates granted.

Nov. 29th & 30th, London. 78 Candidates, 44 Certificates granted.

Dec. 20th and 21st, Manchester. 113 Candidates, 57 Certificates granted.

Inspectors of Meat and other Foods.

Dec. 6th and 7th, London. 16 Candidates, 9 Certificates granted.

Candidates who have received Certificates, October–December, 1901.

Practical Sanitary Science.

1901, Nov. 30.	Drown, Robert George.
1901, Dec. 21.	Hayes, George.
1901, Dec. 21.	Hewitt, Frank.
1901, Nov. 30.	Hooper, Vincent.
1901, Nov. 16.	Manton, Edwin.
1901, Nov. 30.	Marden, George.
1901, Nov. 30.	Purchon, William Sydney.
1901, Dec. 21.	Simm, Ernest.
1901, Nov. 30.	Tuke, James Edward.

Inspectors of Nuisances.

1901, Nov. 30.	*L*	Arnold, Miss Louisa Lucy Hester.
1901, Nov. 16.		Anderson, James McLaren.
1901, Nov. 16.		Ayre, Richard.
1901, Nov. 30.		Back, Frederick Thomas.
1901, Nov. 30.		Barnard, George William.
1901, Nov. 2.		Barr, John.
1901, Dec. 21.		Barlow, Jonathan.
1901, Nov. 30.		Bellamy, Page William.
1901, Dec. 21.		Birtwistle, Robert Hartley.
1901, Dec. 21.		Briggs, Doctor Ashworth.
1901, Dec. 21.		Brocklehurst, Augustus Cooke.
1901, Dec. 21.	*L*	Brown, Miss Margaret L.
1901, Dec. 21.		Butler, William.
1901, Dec. 21.		Carr, William.
1901, Dec. 21.		Clare, Thomas Alfred.
1901, Dec. 21.		Clayton, Lewis.
1901, Dec. 21.		Clough, Ernest.

1901, Dec. 21.		Coleman, Harry.
1901, Dec. 21.		Cooper, Edgar Arthur.
1901, Dec. 21.		Cordingley, John James.
1901, Nov. 16.		Coulson, William John.
1901, Nov. 30.		Daniel, Thomas Reed.
1901, Dec. 21.		Davies, William Robert.
1901, Nov. 30.		Davis, Charles Edward.
1901, Nov. 30.		Draper, William Homer.
1901, Nov. 30.		Dunworth, James.
1901, Dec. 21.		Eckley, John Eckley.
1901, Nov. 16.		Elliott, George Joseph.
1901, Dec. 21.		England, Albert.
1901, Nov. 30.		England, Tom.
1901, Nov. 30.		Evans, John Dorsett.
1901, Nov. 30.		Fairchild, George Bryant.
1901, Nov. 30.		Firby, Alfred James.
1901, Dec. 21.		Fitt, Arthur Hemming.
1901, Dec. 21.	*L*	Forster, Mrs. Mary Ellen.
1901, Nov. 30.		Frith, Vincent.
1901, Nov. 30.		Froes, Herbert Francis.
1901, Dec. 21.		Garbutt, Francis Howard.
1901, Dec. 21.		Green, Frederick John Albert.
1901, Dec. 21.		Greenway, Samuel.
1901, Nov. 30.	*L*	Hamer-Jackson, Mrs. C.
1901, Dec. 21.		Hamilton, Robert Keenleyside.
1901, Dec. 21.		Hanson, Jesse.
1901, Nov. 30.		Harvell, Reginald James.
1901, Dec. 21.		Hawkins, Herbert William.
1901, Nov. 30.		Haynes, Charles.
1901, Nov. 2.		Hewitt, Joseph.
1901, Nov. 16.		Higham, John.
1901, Dec. 21.		Hill, Edwin.
1901, Nov. 16.		Hill, William Alfred C.
1901, Dec. 21.		Hirst, Fred.
1901, Dec. 21.		Holden, James Arthur.
1901, Dec. 21.		Hudson, John Mark.
1901, Dec. 21.		Irlam, John William.
1901, Nov. 16.		James, Alfred James.
1901, Dec. 21.		Jenkins, Daniel.
1901, Dec. 21.		Jones, John Roughsedge.
1901, Dec. 21.		Kay, Samuel.
1901, Dec. 21.		Kirby, Charles William.
1901, Nov. 30.		Larter, Albert Lewis.
1901, Nov. 30.		Leney, Charles William.
1901, Dec. 21.	*L*	Leresche, Miss Ellen FitzAdam.
1901, Nov. 16.		Little, James Harrison.
1901, Nov. 30.		Love, George.
1901, Nov. 16.		Macfarlane, Malcolm.
1901, Dec. 21.		Malins, Maurice.
1901, Nov. 30.		Mann, Milford.

1901, Dec. 21.		**Marginson, John William.**
1901, Nov. 16.		**Mather, Andrew.**
1901, Dec. 21.		**Meeson, Albert James.**
1901, Dec. 21.		**Miles, Harvey John.**
1901, Nov. 30.		**Mower, Frank William.**
1901, Nov. 30.		**Mussell, Thomas.**
1901, Nov. 30.		**Pledge, Charles Richard.**
1901, Nov. 30.		**Pointon, Joseph Bertram.**
1901, Dec. 21.		**Pickard, Robert.**
1901, Nov. 16.		**Pilter, Robert.**
1901, Dec. 21.		**Procter, James Charles.**
1901, Nov. 30.		**Puckle, Raymond Aufrère.**
1901, Dec. 21.		**Randerson, Leonard.**
1901, Nov. 16.		**Riddle, Robert Edward.**
1901, Dec. 21.		**Ridsdale, Ernest.**
1901, Dec. 21.	*L*	**Roberts, Miss Emily Gertrude.**
1901, Dec. 21.		**Robinson, Anthony.**
1901, Nov. 30.		**Rolfe, John Henry.**
1901, Nov. 16.		**Russell, John.**
1901, Nov. 30.		**Scoble, Ernest Alfred.**
1901, Nov. 30.		**Scott, Walter.**
1901, Nov. 30.		**Seden, James Leonard.**
1901, Nov. 30.		**Shelley, William Lincoln.**
1901, Nov. 30.		**Sharpe, Harry.**
1901, Nov. 30.		**Sills, Frederick J.**
1901, Nov. 30.		**Sills, Joseph Howard.**
1901, Dec. 21.		**Skelton, Richard Allinson.**
1901, Dec. 21.		**Slater, Ernest Edward.**
1901, Dec. 21.		**Small, Horatio.**
1901, Dec. 21.		**Smith, Walter.**
1901, Nov. 30.		**Smith, William George.**
1901, Dec. 21.		**Smyth, Norman L.**
1901, Nov. 2.		**Spencer, Ralph.**
1901, Nov. 2,		**Storey, Bertie.**
1901, Dec. 21.		**Sugden, William.**
1901, Nov. 30.		**Sutton, George Jay.**
1901, Dec. 21.		**Taylor, John.**
1901, Nov. 16.		**Tinkler, John Henry.**
1901, Nov. 16.		**Topping, Thomas.**
1901, Dec. 21.		**Trevitt, Frederick.**
1901, Dec. 21.		**Waites, Joseph Thomas.**
1901, Dec. 21.		**Wall, Arthur.**
1901, Dec. 21.		**Wallace, Charles.**
1901, Nov. 30.		**Webb, Frederick Henry.**
1901, Nov. 20.		**West, William Pennyfather.**
1901, Nov. 30.	*L*	**Wheatley, Mrs. A. A.**
1901, Nov. 30.		**Widger, George Henry William.**
1901, Nov. 30.		**Wigg, Frederick Arthur.**
1901, Nov. 30.		**Williams, Henry Gillin.**
1901, Nov. 30.		**Wilson, George William.**

1901, Nov. 16.	Wilson, Percy.
1901, Dec. 21.	Wilson, William Webster.
1901, Dec. 21.	Wood, Thomas.
1901, Nov. 30.	Wormleighton, George Alfred.

Inspectors of Meat and Other Foods.

1901, Dec. 7.	Dee, Thomas George.
1901, Dec. 7.	Flood, William Holsgrove.
1901, Dec. 7.	Grivell, Elias James.
1901, Dec. 7.	Irving, William.
1901, Dec. 7.	Kendall, Ernest Arthur.
1901, Dec. 7.	Martin, George Dunlop, M.R.C.V.S.
1901. Dec. 7.	Romeril, William George.
1901, Dec. 7.	Rudduck, H. Sugden.
1901, Dec. 7.	Waterman, Richard Henry.

Examination Questions.

Practical Sanitary Science.—Norwich, Nov. 1st and 2nd, 1901.

1. What is the cause of wind? What are the respective characteristics of wind from the different points of the compass? What are the causes of these characteristics? How is its force of wind measured?

2. What is the most suitable aspect for cottage dwellings built in terraces on an elevated and much exposed site? State the reasons.

3. Describe two methods of filtering water in large quantities; What action takes place in a sand filter to produce purification of the water?

4. Briefly describe the various bricks that are employed for the following purposes: I., foundations; II., facings; III., piers, carrying heavy loads. Give the tests you would apply in selecting each kind and the defects to which each is liable.

5. Describe fully a method of ventilating a schoolroom 60 ft. by 30 ft. by 25 ft., which is lighted only from the top.

6. A 12-inch pipe with a gradient of 1 in 320 runs half full. What is the velocity and discharge therefrom?

7. Describe the best methods and apparatus employed for removing by water carriage excrementitious matter from the interior of Houses, Factories, Schools, and Hospitals. Illustrate by sketches.

8. In order to effect the complete cremation of town refuse in a Destructor, state the necessary conditions with regard to temperature, and air supply to the furnace.

The Candidates were examined vivâ voce *on the 2nd.*

Practical Sanitary Science.—Newcastle-upon-Tyne, Nov. 15th and 16th, 1901.

1. What are the products of respiration and combustion, and how should they be removed from a crowded room?

2. State briefly the conditions to be observed in selecting a source and site for the public water supply of a town.

3. State the chief physical characteristics of waters from various sources.

4. Describe the construction of a hot water service, for bath and other purposes, in a mansion. Describe how the circulation is obtained and show by a diagram the position of the boiler, cistern, cylinder, etc., and state the precautions that should be taken to prevent damage by frost.

5. What are the advantages and disadvantages of mechanical ventilation for large rooms?

6. Sketch and describe how you would arrange a system of "back drainage" to carry off the sewage from water closets in a row of houses to a main sewer in the road in front.

7. State the data that govern the calculations upon which the sizes of sewers in a town are determined, and the main points to be observed in designing a system of sewerage.

8. Describe the best methods of collecting and disposing of house refuse on the "conservancy" system (*i.e.*, where the water carriage system is not available).

The Candidates were examined vivâ voce *on the 16th.*

Practical Sanitary Science.—London, Nov. 29th and 30th, 1901.

1. Describe the principles involved in softening water, and describe an apparatus for use on a large scale.

2. Upon what factors does the healthiness or the unhealthiness of a soil chiefly depend? Classify as far as possible the different soils in the order of healthiness, distinguishing between the immediate local conditions and the geology of the district.

3. What are the chief sources of water supply? State advantages or otherwise of each source.

4. State the component parts of—
   (*a*) Cement concrete;
   (*b*) Lias lime concrete, and
   (*c*) Ordinary lime concrete.
   (*d*) Specify the tests which would be applied to the cement and the limes.
   How should the concrete be mixed and applied? To what class of work is each kind of concrete most suitable?

5. How much fresh air is required per head of inmates per hour to keep in a healthy condition an inhabited room, a factory, a theatre, and an infectious diseases hospital?

6. State the essential conditions required for lighting effectively during the day:—

   (*a*) A hospital ward 14 feet high;
   (*b*) A classroom 12 feet high for 40 pupils.
   Give plan and section of each (with dimensions) showing the position of the windows.

7. State shortly what are the general principles of efficient house drainage, and give a few examples of how these are frequently disregarded in actual practice.

8. Sketch and describe the construction of sewers: (*a*) stoneware in waterlogged ground; (*b*) brick; (*c*) brick and concrete. State how the necessary thickness of a brick sewer is determined.

The Candidates were examined vivâ voce *on the* 30*th.*

Practical Sanitary Science.—Manchester, Dec. 20th and 21st, 1901.

1. Give the composition of pure atmospheric air and the respects in which it would vary in an overcrowded ill-ventilated room.

2. In what way was it considered that the rise and fall of groundwater may affect health?

3. What are the respective advantages and disadvantages of the constant and intermittent water supply systems?

4. Give a cross section of an open trench in wet clay subsoil for a 5-ft. barrel sewer, of 9-in. brickwork, twenty feet below the surface level, showing the necessary timbering.

5. Give the composition and state the usual proportions of:

   Cement concrete for foundations;
   Cement concrete for roofs and floors;
   Mortar for building brick walls;
   Mortar for plastering.

6. Explain how the air of a room is set in motion by lighting a fire in a grate, and illustrate by diagram the directions of the movement.

7. Enumerate and explain the conditions essential to good house drainage: with reference to position, materials, inclination, disconnection, and ventilation. Illustrate by a sketch block-plan of a detached house, with stables and other out-buildings.

8. Describe briefly two methods of purifying town sewage at the outfall, and discuss the merits of each.

The Candidates were examined vivâ voce *on the* 21*st.*

Inspector of Nuisances.—Norwich, Nov. 1st and 2nd, 1901.

1. What powers, if any, have Local Authorities with respect to nuisances arising *within* their district, which are caused by some act committed *without* their district?

2. Describe carefully under what conditions you would condemn as unfit for food the carcases of a pig and cow respectively if they were found to be tuberculous.

3. What is meant by the "incubation period" of an infectious disease? How long is it desirable to isolate those who have been exposed to infection in the case of:—Small-pox, Scarlet Fever, Diphtheria?

4. What are the characteristics upon which you would decide whether a sample of water should be submitted to the public analyst, or not?

5. On the intermittent system of water supply, explain in detail how the pipes embedded in the ground may become polluted.

6. Describe how the following appliances, although of good design, sometimes become a source of danger to health through bad plumbing work.—(*a*) Valve Closet, (*b*) Slop Sink, (*c*) Bath, (*d*) Lavatory, and (*e*) Scullery Sink.

7. Write a short specification for the soil pipe (including the junctions with the closets and the drain) of a three-storeyed house having a w.c. on each floor.

8. Describe in detail how a house-drain should be laid, both in good and in bad ground. Give sketches showing various methods of jointing stoneware pipes.

The Candidates were examined vivâ voce *on the 2nd.*

Inspector of Nuisances.—Newcastle-upon-Tyne, Nov. 15th and 16th, 1901.

1. Under what circumstances and between what hours can an Inspector of Nuisances claim right of entry to the following?—
    (*a*) Dwelling houses;
    (*b*) Business premises;
    (*c*) Travelling Vans used for human habitation.

2. In examining a consignment of tinned salmon, what circumstances would cause you to regard either the whole or parts of it with suspicion?

3. Describe what method of disinfection you would recommend for the fæces and urine of a patient suffering from enteric fever.

4. A room in a common lodging house is on plan 20 feet square, and the walls are 7 feet high; the ceiling slopes from the four sides to the centre of the room where it is 12 feet high. What is the content of the room? How many adults should sleep in it? Show by sketch the arrangement of the beds.

5. What precautions require to be taken for the protection of wells in pervious strata near dwellings?

6. Make a sketch showing in detail how you would arrange the drainage of a house having two water-closets, one on the ground floor and the other on the first floor. Also a bath and sink on first floor.

7. Show by sketches the methods of jointing a 4-inch lead soil pipe, its attachment to a wall, and its junction with a 6-inch stoneware house-drain. Give all the dimensions.

8. How long would it take a household of six persons using ten gallons a head of water a day to fill a watertight circular cesspool 5 feet in diameter, the overflow being six feet above the bottom?

The Candidates were examined vivâ voce *on the* 16*th.*

Inspector of Nuisances.—London, Nov. 29th & 30th, 1901.

1. Draw up a complete report on a nuisance caused by black smoke from a factory chimney.

2. What is the general substance and effect of the milk regulations recently issued by the Board of Agriculture?

3. Describe in detail how you would proceed to disinfect the interior of a room by means of a spray-producing disinfecting apparatus.

4. What is the cubic content of a room 30 feet by 15 feet, with a semicircular projection at one end 10 feet in diameter, the room being 10 feet in height? How many people should be allowed to sleep in it?

5. What causes the pollution of water in wells near dwellings, and in cisterns inside houses? What precautions require to be observed?

6. What is a slop water closet? Enumerate some of the alleged advantages and disadvantages of such an appliance. Under what circumstance, if any, may it be admissible?

7. What are the points to which special attention should be directed in determining whether new drains have been properly laid? Describe in detail a good method of testing such drains.

8. How many gallons of water would reach a cistern from the steep pitched slate roof of a house 20 feet by 40 feet on plan, if half an inch of rain falls on the roof (neglecting evaporation, etc.)?

The Candidates were examined vivâ voce *on the* 30*th.*

Inspector of Nuisances.—Manchester, Dec. 20th and 21st, 1901.

1. To what points would you give attention in inspecting the plumbers' work in an ordinary dwelling?

2. Give the definition of a "dwelling-house." On what grounds would you condemn a house as unfit for habitation? What do you understand by overcrowding?

3. What are the superficial area and cubic contents of a room of the following dimensions: 13 ft. by 18 ft. 6 in. on plan, with a rectangular bay at one side, 5 ft. 8 in. by 2 ft. 3 in.; a flat ceiling over one half of the room and over the bay 9 ft. 8 in. high, the ceiling over the other half sloping from 9 ft. 8 in. to 7 ft. 6 in. high?

4. A well is suspected of being polluted by leakage from a drain which passes within ten feet of it. Explain exactly, step by step, the kind and method of the investigations you would make in order to ascertain whether the well water is receiving pollution.

5. What are the objections which are inseparable from cesspools? What are the essential points to be secured in the drainage of a

terrace house with no sewer except in the front? Explain your answer by a sketch.

6. Sketch the proper method of draining a town house, say 20 ft. frontage and 35 ft. deep, the w.c. and scullery sink being at the back, and the main sewer in the street in front. Describe the materials and sizes of the drains, the method of ventilation, the sizes, positions, and description of the traps.

7. A house drain having just been laid, describe the points to which you would give attention in making an inspection. What tests would you apply?

8. Give your views as to the way to ensure the effective scavenging of a main thoroughfare in a large town, the road being either asphalted or wood paved.

The Candidates were examined vivâ voce *on the* 21*st.*

Inspectors of Meat and Other Foods.—London, December 6th and 7th, 1901.

1. What statutory provisions exist dealing with written warranties that articles purchased under the Sale of Food and Drugs Acts were supplied to the vendor as being of the nature, substance, and quality demanded?

2. State some of the signs shown by a living cow which would render it unfit for slaughter as meat.

3. Describe how you would distinguish between the internal organs of a pig and those of a sheep?

4. Describe the difference between the fat of an ox, a horse, and a sheep.

5. Name the most common parasitic diseases affecting the lungs of sheep; describe the appearance of the lesions and how they affect the condition of the carcase.

6. What are the characteristics of fresh fish? What parasite is frequently present in fish, and necessitates it being well cooked? What class of fish keeps best, and why?

7. How would you proceed to inspect a consignment of tinned meat? What conditions would lead you to suspect that the meat was unsound?

8. Under what condition can horse-flesh be sold for the food of man?

9. What is the appearance of the flesh of animals slaughtered on account of: Parturient fever, Stomach staggers (indigestion), Turnip choking.

10. What are the recommendations in the Report of the Royal Commission on Tuberculosis of 1898 with regard to dealing with the carcases of animals affected with Tuberculosis?

The Candidates were examined vivâ voce *on the 7th.*

CALENDAR, JANUARY TO MARCH, 1902.

As far as at present arranged.

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Congress and Editing Committee Exhibition Committee . .	Monday in the week preceding the Council, at 4 p.m. and 5 p.m.
Museum and Library Committee	Tuesday in the week preceding the Council, at 5 p.m.
Special Purposes Committee . Finance Committee . . .	Wednesday in the week preceding the Council, at 4 p.m. and 5 p.m.
Examination Committee . .	Fourth Thursday in January, April, October, 5 p.m.
Parliamentary Committee . . Rivers Pollution Committee . Meat Inspectors Examination Committee	As occasion requires.

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 2 p.m. on Saturday.

Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.

JANUARY.

17 F.
18 S. Examination in Practical Hygiene for School Teachers, London.

18 S. Lecture to School Teachers at Bedford College at 10.30 a.m. The General Structure and Arrangement of the Body, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

25 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. Circulatory System, Digestive System, Food, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

FEBRUARY.

1 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. Respiratory System, Principles of Ventilation, by W. C. C. Pakes, D.P.H. CAMB., F.C.S.

3 M. Lecture to Sanitary Officers at 7 p.m. Mechanical Physics, Laws of Motion, Hydraulics, etc., by E. J. STEEGMAN, M.B., M.R.C.S., D.P.H., Medical Officer of Health, Heston, and Isleworth.

5 W. Lecture to Sanitary Officers at 7 p.m. Natural Forces; Light, Heat, Electricity; Chemistry, by E. J. Steegmann, M.B., D.P.H.

7 F. Lecture to Sanitary Officers at 7 p.m. The Atmosphere; Pressure and Composition; Air; Combustion and Respiration, by E. J. Steegmann, M.B., D.P.H.

8 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. Secretions and Excretions, Clothing, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

10 M. Lecture to Sanitary Officers at 7 p.m. Meteorology, by E. J. Steegmann, M.B., D P.H.

12 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, A: Introductory Remarks, Public Health Acts—English, Scotch, Irish; other Sta-

tutes relating to Public Health; By-Laws (Models, etc.), Regulations, Orders, Memoranda, etc., by J. Priestley, B.A. M.D., M.R.C.S., E.P.H., Medical Officer of Health, Lambeth.

12 W. **Sessional Meeting** at 8 p.m.

14 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, B: Public Health (London) Act; Metropolis Local Management Acts; By-Laws and Regulations in Force in the Administrative County of London, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

14 F. }
15 S. } Examinations in Practical Sanitary Science and for Inspectors of Nuisances, Plymouth.

15 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. Muscular System, Exercise, Play, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

18 T. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, C: Factory and Workshop Acts (including Bakehouse Legislation) 1878–95, as they affect the Sanitary Inspector; Smoke Legislation; Food and Drugs Act, 1899, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

19 W. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector —General, A: Outdoor, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

21 F. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector —General, B: Indoor, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

22 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. Nervous System, Brain Development, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

22 S. Inspection and Demonstration at Lambeth Disinfecting Station, Wanless Road, Loughborough Junction, S.E., at 3 p.m.

25 Tu. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector —C: Offensive Trades and Trade Nuisances, etc., by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.

26 W. Lecture to Sanitary Officers at 7 p.m. Infectious Diseases, by A. Wellesley Harris, M.R.C.S., D.P.H., Medical Officer of Health, Lewisham.

26 W. Inspection and Demonstration at Soap Works.

28 F. Lecture to Sanitary Officers at 7 p.m. Methods of Disinfection, by A. Wellesley Harris, M.R.C.S., D.P.H., Medical Officer of Health, Lewisham.

MARCH.

1 S. Lecture to School Teachers at Bedford College, at 10.30 am. General Diseases and Conditions incidental to School Life: their Causes and Effects, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

1 S. Inspection and Demonstration at Marylebone Stoneyard, at 3 p.m.

3 M. Demonstration of Book-keeping as carried out in a Sanitary Inspector's Office, in the Parkes Museum, at 7 p.m., by Albert Taylor, Sanitary Inspector, Westminster.

4 Tu. Lecture to Sanitary Officers at 7 p.m. Water: Composition, Pollution, and Purification, by Henry R. Kenwood, M.B., D.P.H., F.C.S.

5 W. Inspection and Demonstration at the L.C.C. Municipal Lodging House, Parker Street, Drury Lane, at 3 p.m.

7 W. Lecture to Sanitary Officers at 7 p.m. Elementary Statistics, by Henry R. Kenwood, M.B., D.P.H., F.C.S.

7 F. }
8 S. } Examinations in Practical Sanitary Science and for Inspectors of Nuisances, Edinburgh.

8 S. Lecture to School Teachers at Bedford College, at 10.30 p.m. Infectious Diseases: their Nature and History, and Means of Prevention—Tuberculosis, Diphtheria, Scarlet Fever, by W. C. C. Pakes, D.P.H. CAMB., F.C.S.

10 M. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.R.I.B.A.

11 Tu. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work, by J. Wright Clarke.

12 W. **Sessional Meeting at 8 p.m.**

14 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Building Construction and Planning; Soil and Local Physical Conditions, by Prof. R. Elsey Smith, A.R.I.B.A.

15 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. Infectious Diseases—Chicken-pox, Measles, Whooping-cough, Mumps, Ophthalmia, Small-pox, etc., by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

15 S. Inspection and Demonstration at the Sewage Works, Sutton, Surrey, at 3 p.m., conducted by C. Chambers Smith, Town Surveyor.

18 Tu. Lecture to Sanitary Officers at 7 p.m. Ventilation, Lighting, and Warming, by W. Spinks, ASSOC.M.INST.C.E.

19 W. **Ordinary General Meeting at 5 p.m.**

19 W. Lecture to Sanitary Officers at 7 p.m. Calculations, Measurements, and Plans and Sections, by W. Spinks, ASSOC.M.INST.C.E.

19 W. Inspection and Demonstration in the District of Islington and at the Borough Disinfecting Station, at 2 p.m., conducted by James R. Leggatt, Supt., Public Health Dept., Islington.

20 Th. Lecture to Sanitary Officers at 7 p.m. Sanitary Appliances, by W. Spinks, ASSOC.M.INST.C.E.

21 F. Lecture to Sanitary Officers at 7 p.m. House Drainage, by W. Spinks, ASSOC.M.INST.C.E.

22 S. Inspection and Demonstration at Beddington Sewage Farm, at about 3 p.m., conducted by Thomas Walker, M.INST.C.E., Borough Engineer.

24 M. Lecture to Sanitary Officers at 7 p.m. Water Supply, Sources of Supply and Distribution, by Jno. Ed. Worth, M.INST.C.E.

26 W. Inspection and Demonstration at the East London Water Works, Lea Bridge, at 3 p.m. Conducted by W. B. Bryan, M.INST.C.E.

28 F. **Good Friday.**

31 M. **Easter Monday.**

APRIL.

4 F. Lecture to Sanitary Officers at 7 p.m. Sewerage, by Jno. Ed. Worth, M.INST.C.E.

5 S. Inspection and Demonstration at the Sewage Outfall Works, Barking, at 3 p.m., conducted by J. E. Worth, M.INST.C.E., District Engineer.

7 M. Lecture to Sanitary Officers at 7 p.m. Sewage Disposal, by Jno. Ed. Worth.

9 W. Inspection and Demonstration in the District of Islington and at the Borough Disinfecting Station, at 2 p.m., conducted by James R. Leggatt, Supt., Public Health Dept., Islington.

9 W. Lecture to Sanitary Officers at 7 p.m. Scavenging, Disposal of House Refuse, by Jno. Ed. Worth, M.INST.C.E.

9 W. **Sessional Meeting at 8 p.m.**

11 F. Lecture to Sanitary Inspectors at 7 p.m. Signs of Health and Disease in Animals destined for Food, when alive and after slaughter, Tuberculin and other Tests, by W. Hunting, F.R.C.V.S.

11 F. } Examination in Practical Sanitary Science and for Inspectors of
12 S. } Nuisances, Birmingham.

12 S. Inspection and Demonstration at Sewage and Destructor Works, Ealing, at 2.15 p.m., conducted by C. Jones, M.INST.C.E., Borough Engineer.

14 M. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by W. Hunting, F.R.C.V.S.

16 W. Inspection and Demonstration at Harrison and Barber's Knackers' Yard, Winthrop Street, E.C.

16 W. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.

18 F. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.

19 S. Inspection and Demonstration at Morden Hall Dairy Farm, Morden, Surrey, at 3 p.m., conducted by Oscar J. White.

21 M. Lecture to Sanitary Officers at 7 p.m. The Appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other Food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption; Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.

22 Tu. Inspection and Demonstration at the Metropolitan Cattle Market, Islington, at 3 p.m., conducted by James King, M.R.C.V.S., Veterinary Inspector.

23 W. Lecture to Sanitary Officers at 7 p.m. The Hygiene of Byres, Lairs, Cow Sheds, and Slaughter Houses, and all places where animals destined for the supply of food are kept, and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for sale, and transported, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.

25 F. Lecture to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the inspection and sale of Meat and other articles of Food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.

26 S. Lecture to School Teachers at Bedford College, at 11 a.m. Infectious Diseases: Laws theron, Duties of School Teachers, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

MAY.

2 F.
3 S. } Examinations in Practical Sanitary Science and for Inspectors of Nuisances, London.

3 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. School Accidents, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

9 F.
10 S. } Examination for Inspectors of Meat and other Foods, London.

10 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. Disinfectants and Disinfection, by W. C. C. Pakes, D.P.H.CAMB., F.C.S.

FELLOWS, MEMBERS, AND ASSOCIATES

ELECTED, OCTOBER TO DECEMBER, 1901.

(A Complete List can be had on application.)

Reg. No.	Date of Election.	FELLOWS.
1066	1901. Nov.	BERRY, William, D.P.H., M.O.H., *Park House, Wigan.*
1016	1901. Nov.	RICHARDS, Harold Meredith, M.D.LOND. (in Med. and State Med.), B.S., M.R.C.S., L.R.C.P., FELLOW OF UNIV. COLL., LOND., *Town Hall, Croydon.*

MEMBERS.

* Passed Examination in Practical Sanitary Science.

S Passed Examination in Practical Hygiene for School Teachers.

Reg. No.	Date of Election.	
1523	1901. Nov.	**Armytage**, William Kaye Lewis, *Borough Surveyor, Yeovil.*
1524	1901. Nov.	**Bamber**, Charles James, M.R.C.S., L.R.C.P., D.P.H. CAMB., *Sanitary Commissioner, Simla, Punjab, India.*
1542	1901. Dec.	**Bell**, Leonard Moore, ASSOC.M.INST.C.E., *Municipal Offices, Singapore.*
1525	1901. Nov.	**Black**, Ernest, L.R.C.P., L.R.C.S., *President Board of Health, Perth, Western Australia.*
1521	1901. Oct.	*S* **Blakeley**, Miss Clara Ann, *King's Buildings, Addiscombe Road, Fernally St., Watford.*
1528	1901. Nov	**Blackwell**, Louis Buckland, ASSOC.M.INST.C.E., *Chief Sanitary Inspector, Town Hall, Sydney.*
1529	1901. Nov.	**Dods**, Joseph Espie, M.B., B.CH.EDIN., *Acting Health Officer, Brisbane.*
1531	1901. Nov.	**Easdale**, William Charles, 59, *Lambton Road, Wimbledon.*
1530	1901. Nov.	**Ellery**, Torrington George, *Town Clerk, Adelaide.*
1526	1901. Nov.	***Felgate**, James P. O., *Box* 439, *Buluwayo.*
1532	1901. Nov.	**Fritchley**, Edwin Wollaston, *Sassoon Hall, Victoria Road, Mazagon, Bombay, India. (Architect.)*
1527	1901. Nov.	**Ham**, Bertie Burnett, M.D., M.R.C.S., D.P.H.CAMB., L.R.C.P., *Commissioner of Public Health, Brisbane, Queensland.*
1533	1901. Nov.	***Hawkins**, John Charles, *Chelston Vale, Chelston, Torquay.*
1534	1901. Nov.	**Home**, William Edward, M.D., M.R.C.P., B.SC.EDIN., *Staff Surgeon, Royal Navy, Edinburgh.*
1543	1901. Dec.	**Howes**, Arthur Burnaby, 193, *High Road, Balham.*
1544	1901. Dec.	**Greenwood**, Alfred, M.D., D.P.H., M.O.H., 237, *Nantwich Road, Crewe.*
1535	1901. Nov.	***Lawson**, Frederick Washington, *Wharf Road, Concord, N.S.W.*
1536	1901. Nov.	**Nash**, James Thomas Charles, M.D.EDIN., D.P.H. CAMB., *Medical Officer of Health, Southend.*
1522	1901. Oct.	**Powell**, Robert Albert, ASSOC. M. INST. C. E., *District Engineer, Public Works Department, Pussellawa, Ceylon.*
1537	1901. Nov.	**Prescott**, Albert Ernest, *Borough Surveyor, Douglas, I.M.*
1538	1901. Nov.	**Richardson**, George Richard, ASSOC.M.INST.C.E., *Surveyor, Adelaide Road, Surbiton.*
1545	1901. Dec.	**Robinson**, Keith, ASSOC.M.INST.C.E., 13, *Victoria Street, S.W.*
1546	1901. Dec.	**Shaw**, William Napier, M.A., F.R.S., 10, *Moreton Gardens, S.W.*

Reg. No.	Date of Election.	
1539	1901. Nov.	Shroff, K. B., l.m. & s., d.p.h., *Deputy Health Officer, Cumballa Hill, Bombay.*
1540	1901. Nov.	*Smedley, William Robert, *Heeley Road, Selly Oak, Birmingham.*
1541	1901. Nov.	*Tomlinson, Frederick Walter, *Royal Technical Institute, Salford.*
1547	1901. Dec.	Wright, Richard Ernest, assoc.m.inst.c.e., *Inspector Public Works Department, Port Elizabeth, Cape Colony.*

ASSOCIATES.

‡ Passed Examination for Inspectors of Nuisances.

S Passed Examination in Practical Hygiene for School Teachers.

M Marked thus have passed the Examination of the Institute for Inspectors of Meat and Other Foods.

Reg. No.	Date of Election.	
2360	1901. Nov.	‡Alstead, John Farrington, 367, *Springbank, Pemberton, Wigan.*
2361	1901. Nov.	‡Andow, Charles Daniel, 41, *Orchard Street, Weston-super-Mare.*
2362	1901. Nov.	‡Brear, Benjamin, *Low House, Addingham, Leeds.*
2363	1901. Nov.	‡Brook, John, *Surveyor and Sanitary Inspector, Stratford-on-Avon.*
2364	1901. Nov.	‡Butterworth, James, *Mill Street, Kidderminster.*
2350	1901. Oct.	‡Clapham, John Henry, 624, *Manchester Road, Bradford.*
2365	1901. Nov.	‡Clark, Isaac, 133, *Thomas Terrace, Blaydon-on-Tyne.*
2351	1901. Oct.	‡Coates, James Christopher, *Council Offices, Altofts, Normanton.*
2366	1901. Nov.	‡Cook, James, 20, *Clifton Street, Belfast.*
2367	1901. Nov.	Cowie, Alexander, *Assistant Drainage Engineer's Department, Corporation Offices, Cape Town.*
2368	1901. Nov.	‡Cox, Charles Edwin, *Windmill Hill, Cradley, Cradley Heath.*
2369	1901. Nov.	‡Cragg, William, 26, *Kingsbury Street, Marlborough.*
2370	1901. Nov.	‡Crichton, Miss Marjory Jane, *Castle of Kincardine, Laurencekirk.*
2371	1901. Nov.	‡Davies, Eiryn William, 15, *Malefant Street, Cathays, Cardiff.*
2355	1901. Oct.	‡Dudding, George Leonard Eccles, 51, *Wellington Lane, Beverley Road, Hull.*
2419	1901. Dec.	‡Ellis, William B., *Public Offices, Barking, E.*
2420	1901. Dec.	‡Fairchild, James Bryant, *Yardley Gobion, Stony Stratford.*
2352	1901. Oct.	‡Fell, Edward Thomas, *Plane Trees, New Pellon, Halifax.*
2421	1901. Dec.	‡Field, Albert Ebenezer, *Petra Wallace Street, Marrickville, Sydney.*

Reg. No.	Date of Election.	
2372	1901. Nov.	‡Fletcher, James, 10, *Weaste Road, Pendleton, Manchester.*
2422	1901. Dec.	‡Flood, William Holsgrove, 16, *Tabley Road, Tufnell Park, N.*
2373	1901. Nov.	‡Franklin, John, *Beaconsfield Street, Norton, Stockton-on-Tees.*
2374	1901. Nov.	‡Fraser, Archibald W., *Council Offices, Acton, W.*
2356	1901. Oct.	‡Garner, Arthur, 8, *De Grey Street, Bradford.*
2375	1901. Nov.	‡Gorvett, Alfred, 4, *City Road, Bristol.*
2376	1901. Nov.	‡Griffiths, James, 54, *Denton Road, Canton, Cardiff.*
2377	1901. Nov.	‡Hanrahan, Patrick, 16, *Abbey Street, Wexford.*
2378	1901. Nov.	‡Hardcastle, Alfred Herbert, 53, *Church Street, Hunslet, Leeds.*
2423	1901. Dec.	‡Harrington, Miss Mary, 106, *Waterbarn Street, Burnley.*
2379	1901. Nov.	‡Harrison, James Clark, 139, *Wembury Street, Harpurhey, Manchester.*
2380	1901. Nov.	‡Hewes, George William, 27, *Williams Road, Burnley.*
2381	1901. Nov.	‡Hillas, Miss May, 15, *Godley Street, Burnley.*
2382	1901. Nov.	*M*Howartson, Thomas Charles, M.R.C.V.S., *St. Asaph, Flint.*
2383	1901. Nov.	‡Hughes, William, 21, *Gorton Street, Peel Green, Patricroft, Manchester.*
2385	1901. Nov.	‡Hutchinson, James, *Hepthorn Lane, North Wingfield.*
2426	1901. Dec.	‡Irving, William, 21, *Offord Street, Barnsbury, N.*
2386	1901. Nov.	‡James, Simon John, *Coedllys,, Login R.S.O.*
2384	1901. Nov.	‡Kramm, Albert B., *District Council Offices, Wimbledon.*
2387	1901. Nov.	‡Lloyd, Thomas Arthur, *Inspector of Nuisances, Newcastle, N.S.W.*
2388	1901. Nov.	‡Mackenzie, Miss Annie Mildred, 35, *Upper Catherine Street, Liverpool.*
2389	1901. Nov.	‡Manton, Edwin, *Daleside Lodge, Leeds Road, Harrogate.*
2390	1901. Nov.	‡Marsden, Ralph, 39, *Bradford Road, Brighouse.*
2391	1901. Nov.	‡Moorhouse, Ernest Frederick, *Poplar Terrace, Lofthouse Gate, Wakefield.*
2392	1901. Nov.	‡Morris, Gwilym Thomas, 16, *Richard Street, Cilfynydd, near Pontypridd.*
2393	1901. Nov.	‡Murphy, Peter, *Assistant Inspector of Drainage, Sydney, N.S.W.*
2394	1901. Nov.	‡Nuttall, Edwin Henry, 237, *Folds Road, Bolton.*
2395	1901. Nov.	‡Nutter, John Thomas, *Oak Cottage, Barkerhouse Road, Nelson.*
2396	1901. Nov.	‡Ormandy, Henry, 35, *Albert Road, Waterloo, Liverpool.*
2397	1901. Nov.	‡Pilkington, George, *Bridge End, Helmshore.*

Reg. No.	Date of Election.	
2398	1901. Nov.	‡PRESTON, John Roger, *Morecambe Lodge, Yealand, Carnforth.*
2358	1901. Oct.	‡PRIESTLEY, Isaac, *Wibsey, Bradford.*
2357	1901. Oct.	‡RAINE, Alfred, 4, *Chapel Lane, Bingley.*
2399	1901. Nov.	‡RICHARDS, Richard Henry, *Haughmond, Oswestry.*
2400	1901. Nov.	‡ROBERTS, R. Cadwaladr, *Plas Erye, Clwtrybont, Cwmyglo R.S.O.*
2401	1901. Nov.	‡ROBY, William Henry, 13, *Lindsay Street, Whalley, Wigan.*
2402	1901. Nov.	‡SCOTT, A. J. E., 89, *St. Mary Street, Cardiff.*
2403	1901. Nov.	‡SKIDMORE, Thomas, 13, *Queen Street, Mansfield.*
2404	1901. Nov.	‡SIMM, Ernest, *Lower Abbott House, Osbaldstone, Blackburn.*
2405	1901. Nov.	‡SMITH, William James, 124, *Clifford Gardens, Kensal Rise, W.*
2406	1901. Nov.	‡SPENCER, Harry, 37, *Hartington Terrace, Bradford.*
2407	1901. Nov.	‡STALKER, Alfred, 34, *Garfield Road, Scarborough.*
2353	1901. Oct.	‡STANDISH, Ernest, 106, *Midland Road, Bradford.*
2408	1901. Nov.	*S* STEPHENSON, Miss Maria, *Wellfield House, Todmorden.*
2409	1901. Nov.	‡TAZEWELL, Frederick William, *Lyncombe Vale, Bath.*
2359	1901. Oct.	‡THOMPSON, George Wharton, *Hipperholme, Halifax.*
2424	1901. Dec.	‡WADSWORTH, Alfred Ernest, 65, *Railway Terrace, Petersham, N.S. Wales.*
2410	1901. Nov.	‡WALSH, Christopher Ralph, 142, *Latham Terrace, Olive Lane, Darwen.*
2411	1901. Nov.	‡WATSON, Edward, 21, *Crossfield Road, Cleator Moor.*
2427	1901. Dec.	‡WATSON, John George, 123, *Heneage Road, Great Grimsby.*
2412	1901. Nov.	‡WEDGE, Benjamin James, 41, *Stanley St., Burslem.*
2425	1901. Dec.	‡WEST, Henry, 210, *Salisbury Terrace, Rushden Road, Bradford.*
2413	1901. Nov.	‡WEST, William, 66, *Sheepfold Street, Great Grimsby.*
2414	1901. Nov.	‡WESTWOOD, Francis John, *Dalston House, Dunstall Road, Wolverhampton.*
2354	1901. Oct.	‡WILKINSON, Thomas Fletcher, 192, *York Road, Leeds.*
2415	1901. Nov.	‡WILLIAMS, David Trevor Farrant, *Belmont House, Victoria Road, Pontypool.*
2416	1901. Nov.	‡WORTHINGTON, William, 4, *West Road, Prestwich, near Manchester.*
2417	1901. Nov.	‡WRIGHT, Albert, 45, *South Parade, Banbury.*
2418	1901. Nov.	*M* WYCHERLEY, William Nicholson, *St. John's Market, Liverpool.*

EXHIBITS ADDED TO THE MUSEUM,

FROM SEPTEMBER TO DECEMBER, 1901.

Aquarius Wash-down Closet (Section) showing P or S Trap with joint below water-line. *Outram & Co.*

Izal Products. Case of Crude and Refined Oils; also preparations from same in liquid and solid form. *Newton, Chambers & Co.*

Well Borings. Three framed Photographs of Well Borings, including wells at Zoological Gardens, Barclay & Perkins's Brewery, and Hyde Park Court. *Isler & Co.*

Tuberculosis. Statistical Charts showing the relations of Tuberculosis and the Industrial Classes of the United States. *The Prudential Co., U.S.A.*

Astragal and Socket (Patent) for strengthening lead pipe work. *Bonser & Co.*

Hospital Construction. A number of Plans, Tracings, and Sketches of Hospitals, showing constructive details. *Lady Galton.*

Malaria. Set of 12 Lantern Slides. *Purchased.*

Water-pipe Joint. Model of Flange and Washer, with eccentric piece for diverting two straight pipes from a straight line without forcing the joint. *Thos. Feather.*

Water Filter (for pressure), consisting of an unglazed earthenware cylinder or candle within a metal case. *Slack & Brownlow.*

Stoneware. A Glass Case fitted up to show the Raw Materials and Stages of Manufacture of "Salt-glazed Stoneware" Drain-pipes, Gullies, Traps, Bends, and Damp-proof Courses. *Jennings, Ltd.*

CONTRIBUTIONS AND ADDITIONS TO LIBRARY

October to December, 1901.

⁂ *For publications of Societies and Institutions, &c., see under "Academies."*

ACADEMY (Australian).

New South Wales, *Royal Society of.* Journal and Proceedings for 1900. Vol. XXXIV. 481 pp., 8vo. Sydney, 1900. *The Society.*

ACADEMIES (British).

Glasgow. *Institution of Engineers and Shipbuilders in Scotland.* Transactions, Vol. XLIV. Forty-fourth Session, 1900–1901. 405 pp., 8vo. Glasgow, 1901. *The Institution.*

London. *City of London College.* Calendar for 1901–1902. 192 pp., 8vo. London, 1901. *The Secretary.*

——— *Institution of Civil Engineers.* Minutes of Proceedings, Vol. CXLVI., 1900–1901, Part IV.; Subject Index, Vols. CXIX. to CXLVI., Sessions 1894–1895 to 1900–1901, 122 pp. 396 pp., 8vo. London, 1901. *The Institution.*

——— *Royal Institute of British Architects.* The Kalendar 1901–1902. 345 pp., 8vo. London, 1901. *The Institute.*

——— *University College.* Calendar, Session 1901–1902. 516 pp., 8vo. London, 1901. *The Secretary.*

——— *Royal College of Surgeons of England.* Calendar, 1901–2. 322 pp., 8vo. London, 1901. *The Council of the College.*

——— *Royal Institution of Great Britain.* Proceedings, Vol. XVI., Part II., No. 94. 247 pp., 8vo. London, 1901. *The Institution.*

——— *The Institution of Mechanical Engineers.* Proceedings, July, 1901. No. 3. 288 pp., plates, 8vo. London, 1901. *The Institution.*

ACADEMIES (Canadian.)

Toronto. *Canadian Institute.* Transactions, No. 13, August, 1901. Vol. VII., Part I. 236 pp., 8vo. Toronto, 1901. *The Institute.*

ACADEMIES (European).

Amsterdam. *Royal Academy of Sciences.* Proceedings of the Section of Sciences, Vol. III. 738 pp., 4to. Amsterdam, 1901.

——— Verslag van de Gewone Vergaderingen der Wis-en Natuurkundige afdeeling van 26 Mei, 1900, tot 20 April, 1901. Deel IX. 774 pp., 4to. Amsterdam, 1901. *The Academy.*

Adams, *Prof. H., M.Inst.C.E.* Wind Pressure on Roofs. 12 pp., 8vo. London, 1893.

——— The Force of the Wind. 8 pp., 8vo. London, 1895.
The Author.

Barwise, *S., M.D., D.P.H.* The Bacterial Purification of Sewage, being an account of the various modern biological methods of purifying sewage. 48 pp., plates, 8vo. London, 1901.
Crosby, Lockwood & Co. (Publishers).

Berne. Statistique de la Suisse, 129° livraison. Examen Pédagogique des Recrues en automne 1900. 16 pp., 4to. Berne, 1901.
Le Bureau de Statistique.

Bilbao. Memoria acerca del estado y progreso de las obras de Saneamiento de la I, Villa de qui comprende el periodo de 1°. de Julio de 1899 al 31 de Diciembre de 1900. 56 pp. (Tables), 4to. Bilbao, 1901. *T. A. Greenhill.*

Blyth, *A. Wynter, M.R.C.S., F.C.S., F.I.C.* Ventilation (Presidential Address, Society of Medical Officers of Health. 30 pp., 8vo. Reprint from "Public Health," November, 1901.
The Author.

Board of Agriculture. Agricultural Returns: Statistical Tables, showing Acreage under Crops and Grass, and number of Horses, Cattle, Sheep and Pigs in the United Kingdom, 1901. 41 pp., 8vo. London.

——— Leaflet No. 70: Winter Washing of Fruit Trees. 2 pp., 8vo. London, 1901.

——— Circular to Local Authorities regarding the Sale of Food and Drugs Act, 1899. 4 pp., fcp. London, 1901. *The Board.*

Bombay, Government of. Thirty-sixth and Thirty-seventh Annual Reports of the Sanitary Commissioner, 1899 and 1900. fcp. Bombay, 1900 and 1901. *Lieut.-Col. J. W. Clarkson.*

Bruxelles, *Ville de.* Rapport Annuel, Hygiene, Démographie, Service de Santé, Statistique Médicale. Année 1900. 88 pp., 8vo. Bruxelles, 1901.

Bruxelles. *Ministère de l'Agriculture.* Rapports des Commissions médicales provinciales sur leurs travaux pendant l'année 1900, précédés des Observations de l'Académie Royale de Médecine et du Conseil Supérieur d'Hygiène publique. 540 pp., 8vo. Bruxelles, 1901. *Ministère de l'Agriculture.*

Cerezo, *Dr. Angel de Larra y.* Datos para la Historia de la Campaña Sanitaria en la Guerra de Cuba (Apuntes estadisticos relativos al año 1896). 64 pp., 8vo. Madrid, 1901. *The Author.*

Factories and Workshops, Supplement to the Annual Report of the Chief Inspector of, for the year 1900. Fourth and Fifth Annual Returns of Persons Employed in Factories. 38 pp., fcp. London, 1901. *B. A. Whitelegge, M.D., H.M. Chief Inspector.*

Felix, *Dr. I.* Istoria Igieniei in Romania in secolul al XIX.—lea si starea ei la inceputul secolului al XX.—lea Partea I. 371 pp., 4to. Bucuresci. 1901. *The Author.*

Food Preservatives. Report of the Departmental Committee appointed to inquire into the use of Preservatives and Colouring Matters in the preservation and colouring of food; together with Minutes of Evidence, Appendices, and Index. 533 pp., fcp. London, 1901. *H. Timbrell Bulstrode, M.D.*

Freebairn-Stow, *J.* Irrigation Works in South Africa. 6 pp., 8vo. London, 1901. *The Author.*

Frick, *J.* On Liquid Air and its application (Liquid Air Wells). 23 pp., 8vo. London, 1901. *The Author.*

Furneaux, *Wm. S.* Elementary Practical Hygiene (Section I.). 239 pp., 8vo. London, 1901. *Longmans, Green & Co. (Publishers).*

Giordano, *Dr. Alfonso.* I Solfarari Anchilostomiaci curati in Lercara. 11 pp., 8vo. Palermo, 1901. *The Author.*

Glasgow. Report of Proceedings at Conference as to Cheap Dwellings, Sept. 24th and 25th, 1901. 92 pp., 8vo. Glasgow, 1901. *City Improvements Department.*

Goodall, *E. W., M.D.*, and **Washbourn,** *J. W., M.D.* A Manual of Infectious Diseases. 368 pp., 8vo. London, 1896. *H. K. Lewis (Publisher).*

Greenwell, *Allan, A.M.I.C.E., F.G.S.*, and **Elsden,** *J. V., B.Sc., F.G.S.* Roads, their Construction and Maintenance, with special reference to Road Materials. 280 pp., 8vo. London, 1901. *D. Fourdrinier (Publisher).*

Horrocks, *W. H., M.B., B.Sc., Major R.A.M.C.* An Introduction to the Bacteriological Examination of Water. 300 pp., 8vo. London, 1901. *J. & A. Churchill (Publishers).*

Japan and China. The Surgical and Medical History of the Naval War between Japan and China during 1894–95. 544 pp., 4to. Tokio, 1901. *Baron Saneyoshi, Director-General Medical Dept. Impl. Jap. Navy.*

Local Government Board. Circular *re* Tuberculosis, 6th September, 1901. 3 pp., fcp. London, 1901. *The Secretary.*

——— Dr. Theodore Thomson's Report on Recent Prevalence of Diphtheria in the Prestwich Urban District, and on the General Sanitary Circumstances and Administration of the District. 5 pp., fcp. London, 1901.

——— Dr. S. Wheaton's Report on the Sanitary Circumstances of the Llandilofawr Rural District, Carmarthenshire, and on Sanitary Administration by the Rural District Council. 9 pp., fcp. London, 1901.

——— Dr. R. Deane Sweeting's Report on the General Sanitary Circumstances and Administration of the Borough of Weymouth and Melcombe Regis, and on Recent Prevalence there of Scarlet Fever. 25 pp., fcp. London, 1901.

——— Dr. S. W. Wheaton's Report on the Sanitary circumstances of the Strood Rural District, Kent, and on Sanitary administration by the Rural District Council. 9 pp., fcp. London, 1901.

Local Government Board. Dr. R. Deane Sweeting's Report on the Sanitary Circumstances and Administration of the Sanitary areas comprised in the Milton Registration District, with especial reference to recent prevalence of Diphtheria and Enteric Fever. 21 pp., fcp. London, 1901.

——— Dr. W. W. E. Fletcher's Report upon the Sanitary Circumstances and Administration of the Gildersome Urban District, and upon the recent Prevalence of Enteric Fever therein. 17 pp., fcp. London, 1901.

——— Dr. W. W. E. Fletcher's Report upon the Sanitary Circumstances and Administration of the Romney Marsh Rural District, and of the Boroughs of New Romney and Lydd. 20 pp., fcp. London, 1901. *W. H. Power, F.R.S.*

London Port. Half-yearly Report to June 30th, 1901. 60 pp., fcp. London, 1901. *W. Collingridge, M.A., M.D.*

Madrid. IX. Congreso Internacional de Higiene y Demografia, 1898. Actas y Memorias. Tomes I.—IX. 8vo. Madrid, 1900. *Dr. Angel de Larra y Cerezo.*

Manchester. Annual Report of Rivers Department for the year ending March 27th, 1901. 74 pp. (Tables), 8vo. London, 1901. *King & Son (Publishers).*

Massachusetts. *State Board of Health.* Thirty-second Annual Report, 1900. 891 pp., 8vo. Boston, 1901. *The Board.*

MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

Derbyshire C.C., 1900 .. *S. Barwise, M.D., D.P.H.*
Glamorgan C.C., 1900 .. *W. Williams, M.A., M.D., D.P.H.*
Lancaster C.C., 1900 .. *E. Sergeant, M.R.C.S., D.P.H.*
London, City of, 1900 .. *W. Collingridge, M.A., M.D., D.P.H.*
Notts C.C., 1900 .. .. *H. Handford, M.D., F.R.C.P.*
Staffordshire C.C., 1900 .. *G. Reid, M.D., D.P.H.*
Stockport, 1900 .. .. *Meredith Young, M.D., D.P.H.*
Wandsworth, 1901 .. . *The Town Clerk.*
West Riding C.C., 1900 .. *James R. Kaye, M.B.*

Michigan State Board of Health. Twenty Seventh Annual Report for the year ending June 30th, 1899. 241 pp., 8vo. Lansing, 1900.

——— Twenty-eighth Annual Report for the Year ending June 30th, 1900. 272 pp., 8vo. Lansing, 1901. *The Board.*

New South Wales. Department of Public Health. Report for the year 1898. 88 pp., fcp. Sydney, 1900.

——— Report on Leprosy in, for the year 1898. 6 pp., fcp. Sydney, 1901. *J. Ashburton Thompson, M.D.*

New South Wales Metropolitan Board of Water Supply and Sewerage. Twelfth Report, from 1st July, 1899, to 30th June, 1900. 89 pp., fcp. Sydney, 1901. *The Secretary.*

New York State Board of Health. Twentieth Annual Report, 1899, and 1 Vol. Maps. 555 pp., 8vo. Albany, 1901. *The Board.*

North-West Territories. Department of Agriculture Annual Report, 1900. 125 pp., 8vo. Regina, 1901. *The Department.*

Moore, *Prof. Veranus A., M.D.* Laboratory directions for beginners in Bacteriology. (Second Edition.) 143 pp., 8vo. Boston, 1901. *Ginns Co. (publishers).*

Oehmcke, *Th.* Mitteilungen über die Luft in Versammlungssälen, Schulen, und in Räumen für öffentliche Erholung und Belehrung sowie einiges über Förderung der Ventilationsfrage in technischer Beziehung und durch gesetzgeberische Mafsnahmen. 68 pp., 8vo. München, 1901. *R. Oldenbourg.*

Ostertag, *Dr. Robert.* Handbuch der Fleischbeschau für Tierärzte, Aerzte und Richter. 902 pp., 8vo. Stuttgart, 1899. *E. Petronell Manby, B.A., M.D., D.P.H.*

Ontario Provincial Board of Health. Nineteenth Annual Report, being for the Year 1900. 141 pp., 8vo. Toronto, 1901. *The Board.*

Orr, *John, M.D., F.R.C.P.E.* Handbook of Public Health. 236 pp., 8vo. Edinburgh, 1901. *E. & S. Livingstone (Publishers).*

Ottawa. *Laboratory of Inland Revenue Department.* Bulletins Nos. 76, 77, 78: Canned Salmon, Effervescent Sodium Phosphate, White Lead in Oil. 8vo. Ottawa, 1901. *T. Macfarlane (Chief Analyst).*

Paris. Annales des Ponts et Chaussées. 1re Partie, Mémoires et Documents relatifs à l'art des constructions et au service de l'Ingénieur, 1901, 2^{e} Trimestre. 432 pp. 8vo. Paris, 1901. *L'Inspecteur Général Secrétaire de la Commission.*

Price, *G. M., M.D.* Handbook on Sanitation: a Manual of Theoretical and Practical Sanitation for Students and Physicians; for Health, Sanitary, Tenement House Plumbing, Factory, Food, and other Inspectors; as well as for Candidates for all Municipal sanitary purposes. 317 pp., 12mo. New York, 1901. *J. Wiley & Sons (Publishers).*

Registrar-General, Scotland. Forty-fifth Detailed Annual Report of Births, Deaths and Marriages (Abstracts of 1899). 481 pp., 8vo. Glasgow, 1901. *The Registrar-General.*

Reid, *G., M.D., D.P.H.* Practical Sanitation: a Handbook for Sanitary Inspectors and others interested in sanitation, with Appendix on Sanitary Law, by Herbert Manley, M.A., M.B., D.P.H. Eighth Edition. 346 pp., 8vo. London, 1901. *C. Griffin & Co. (Publishers).*

Richards, *Ellen H.* The Cost of Food: a Study in Dietaries. 161 pp., 8vo. New York and London, 1901. *J. Wiley & Sons (Publishers).*

Roechling, *H. A., A.M.I.C.E., F.G.S.* The Sewage Question during the last Century. 20 pp., 8vo. London, Dec., 1901. *The Author.*

Royal Commission on Sewage Disposal. Interim Report of the Commissioners appointed in 1898 to inquire and report what methods of treating and disposing of Sewage (including any Liquid from any Factory or manufacturing process) may properly be adopted. 13 pp., fcp. London, 1901.

Russia, its Industries and Trade (Glasgow International Exhibition, 1901). 324 pp., 4to. Glasgow, 1901. *State-Councillor J. N. Lodijensky.*

Ryn, *Dr. J. J. L. van.* The Composition of Dutch Butter. 55 pp., 8vo. London, 1902. *Baillière, Tindall & Cox (Publishers).*

Shaw, *Prof. E. R.* School Hygiene. 260 pp., 8vo. New York and London. *Macmillan & Co. (Publishers).*

Sisley, *Richard, M.D.* The London Water Supply: A Retrospect and a Survey. 192 pp., 4to. London, 1899. *Purchased.*

Stratton, *F.* The Public Health Act, 1875, and other Statutes, or parts of Statutes, relating to the Public Health Acts. 8vo. London, 1901. *Knight & Co. (Publishers).*

Stoddart, *F. Wallis, F.I.C., F.C.S.* The Continuous Sewage Filter. 40 pp., 8vo. Bristol, 1901. *The Author.*

Sutcliffe, *G. Lister, A.R.I.B.A.* Sanitary Fittings and Plumbing. 275 pp., 8vo. London, 1901. *D. Fourdrinier (Publisher).*

Sykes, *J. F. J., M.D.* Public Health and Housing. 216 pp., 8vo. London. 1901. *P. S. King & Co. (Publishers).*

Toronto. Annual Report of the City Engineer for 1900. 193 pp., 8vo. Toronto, 1901. *C. H. Rust, City Engineer.*

United States Bureau of Education. Report of the Commissioner of Education for the year 1899-1900, Vol. I. 1,280 pp., 8vo. Washington, 1901. *W. T. Harris (Commissioner).*

Washington. Index-Catalogue of the Library of the Surgeon-General's Office, U.S. Army. Second Series, Vol. VI., G. Hernette. 1051 pp., 4to. Washington, 1901. *The Surgeon-General.*

West Riding. Sanitary Lectures, Session 1901. Contents: Nuisances and Methods of Inspection, by J. Spottiswoode Cameron, M.D.; Infectious Diseases, Disinfection, Ventilation, by W. Arnold Evans, M.D.; Sanitary Law, (*a*) by Trevor Edwards, (*b*) by Joseph Priestley, M.D.; Water Supplies and Domestic Plumbing, by J. Mitchell Wilson, M.D.; Scavenging, Refuse Disposal, and Smoke Abatement, by W. L. Hunter, M.D.; Sanitary Inspectors' Work, and How to organise it, by J. R. Kaye, M.B. 8vo. London, 1901. *J. R. Kaye, M.B.*

Whitelegge, *B. Arthur, M.D., B.Sc., F.R.C.P., D.P.H.* Hygiene and Public Health. 588 pp., 8vo. London, 1901. *The Author.*

York. Report on the Visit of the Delegates of the Corporation to the British Congress on Tuberculosis, July, 1901. 12 pp., 8vo. York, 1901. *E. M. Smith, M.D., D.P.H.*

In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter.

Bowstead, *Wm.* The Law relating to Factories and Workshops. Sweet & Maxwell.

Mitchell, *C. F. and G. A.* Building Construction. 3rd edition. B. T. Batsford.

Fletcher, *the late Prof. Banister.* The London Building Acts, 1894–98. 2nd Edition. B. T. Batsford.

Schmidt, *F. A., M.A., and* **Miles,** *Eustace H., M.A.* The Training of the Body. Swan Sonnenschein & Co.

Andrews, *O. W., M.B., D.P.H.* Handbook of Public Health Laboratory Work and Food Inspection. Baillière, Tindall & Cox.

Harrington, *C., M.D.* A Manual of Practical Hygiene for Students, Physicians, and Medical Officers. H. Kimpton.

Coste, *Dr. Maurice.* Contribution à l'Etude de l'Immunité Vaccinale. J. B. Baillière et Fils.

India, Report on Sanitary Measures in. Darling & Son.

Simmons, *A. T., B.Sc., and* **Stenhouse,** *E., B.Sc.* Experimental Hygiene. Macmillan & Co.

White, *Florence.* Smallpox: Its Prevention, Treatment, and History.

Bailey-Denton, *G.* The Water Supply and Sewerage of Country Mansions and Estates. E. & F. W. Spon.

Thresh, *J. C., D.Sc., M.D.* Water and Water Supplies. 3rd Edition. Rebman, Ld.

Papplewell, *W. C., M.Sc., Assoc.M.Inst.C.E.* The Prevention of Smoke, combined with the Economical Combustion of Fuel. Scott, Greenwood & Co.

Bruce, *John L., and* **Kendall,** *T. M., B.A., L.R.C.S., L.R.C.P.* The Australian Sanitary Inspector's Handbook. Brooks & Co.

THE FOLLOWING JOURNALS AND PERIODICALS HAVE BEEN RECEIVED DURING 1901.

Weekly.

British Architect.
British Medical Journal.
Builder.
Builders' Journal and Architectural Record.
Contract Journal.
Councillor and Guardian.
Domestic Engineering.
Engineering.
Health.
Illustrated Carpenter and Builder.
Indian Engineering.
Journal d'Hygiène.
Journal of the Society of Arts.

Lancet.
Local Government Chronicle.
Local Government Journal.
Municipal Journal.
Nursing Record.
Public Health Engineer.
Sanitarisch-demographisches Wochenbulletin der Schweiz.
Sanitary Record.
School Board for London Gazette.
Surveyor and Municipal and County Engineer.
Veterinary Record.

MONTHLY, &c.

American Institute of Architects.
Analyst.
Annales des Ponts et Chausées.
Architects' Magazine.
British Food Journal.
British Sanitarian.
Bulletin du service de santé et de l'Hygiène publique (Bruxelles).
Bulletin de la Société des Ingénieurs et Architectes Sanitaires de France.
Canada Educational Monthly.
Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege.
Direzione Generale dell' Amministrazione Civile. Bullettini Sanitario.
Engineering Magazine.
Giornale della Reale Società Italiana d'Igiene.
Indian Review.
Iowa Health Bulletin.
Ironmongery.
Journal of the American Public Health Association.
Journal of the Royal Institute of British Architects.
Journal of the Royal Meteorological Society.
Journal of the Royal Statistical Society.
Journal of the Sanitary Inspectors' Association.
Journal of Society of Chemical Industry.
Journal of State Medicine.
La Higiène Popolar.
La Ingenieria.
La Salute Pubblica (Perugia).
La Technologie Sanitaire.
Le Génie Sanitaire.
Le Mois scientifique et industriel.
Medical Magazine.
Medical Temperance Review.
Meteorological Record.
New York State Board of Health Monthly Bulletin.
North of England Institute of Mining and Mechanical Engineers' Transactions.
Plumber and Decorator.
Proceedings of the Society for the Study of Inebriety.
Public Health.
Quarterly Bulletin.
Registrar-General's Returns. England and Wales, Scotland, and Ireland. Weekly, Monthly, and Quarterly.
Revue d'Hygiène et de Police Sanitaire.
Sanitarian (New York).
Sanitarisch-demographisches Wochenbulletin der Schweiz.
Sei-i-Kwai Medical Journal.
Société d'Hygiène de l'Enfance Bulletin Mensuel.
Surveyor's Institution, Transactions of.
Technology Quarterly and Proceedings of the Society of Arts (Massachusetts).
The Polyclinic.
The Sanitary Inspector.
Tuberculosis.
Water.

PARKES MUSEUM NEW BUILDING AND ENDOWMENT FUND.

PRELIMINARY LIST OF DONATIONS.

Amounts already reported:

	£	s.	d.
Capital allotted	6,000	0	0
Vice-Presidents	258	0	0
Members of Council	95	6	0
Members and others	251	0	0
To the Douglas Galton Gallery	35	0	0

Since the last report the following donations have been made:—

Additional amounts:

Doulton & Co.	50	0	0
Duckett, J., & Sons	10	10	0
Clarkson, Lieut.-Col. J. W.	5	0	0
Horsfall Destructor Syndicate	1	1	0
T. R. Hooper	1	1	0

Donations to the Douglas Galton Gallery:

Lady Galton	100	0	0

COURSE OF PRACTICAL TRAINING FOR MEAT INSPECTORS.

For Candidates preparing for the Examination for Inspectors of Meat and other Foods, conducted by the Sanitary Institute.

The Course will commence early in March and will consist of systematic practical training in the inspection of meat at a cattle market, including demonstrations on live cattle and sheep, slaughtering and dressing of animals, names and situations of the organs, diseases of animals, methods of stalling, arrangement of markets and byres, etc.

Demonstrations will also be arranged at a knacker's yard, where instruction regarding the flesh and organs of the horse will be given.

The Course will continue for two months.

Demonstrations will be given at the market or the Institute on Thursday afternoons or evenings, and the students will have the opportunity of visiting the market at other times.

E. WHITE WALLIS,
Secretary.

72, Margaret Street, W.

In addition to the practical training at the market the Course will include the following lectures to be given in the Parkes Museum, Margaret Street, W., at 7 p.m. on

Friday, 11*th* *April*, *1902*.
Signs of health and disease in animals destined for food, when alive and after slaughter; tuberculin and other tests.

Monday, 14*th* *April*, *1902*.
The names and situations of the organs of the body in animals.

Wednesday, 16*th* *April*, *1902*.
Practical methods of stalling and slaughtering animals.

W. HUNTING, F.R.C.V.S.

Friday, 18th April, 1902.

Diseased meat, with a demonstration of morbid specimens collected from meat markets.

James King, M.R.C.V.S.,
Veterinary Inspector, Metropolitan Cattle Market.

Monday, 21st April, 1902.

The appearance and character of fresh meat, organs, fat, blood, fish, poultry, milk, fruit, vegetables, and other food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption; preserving and storing meat and other foods.

Wednesday, 23rd April, 1902.

The hygiene of byres, lairs, cowsheds, and slaughter-houses, and all places where animals destined for the supply of food are kept, and the hygiene of markets, dairies, and other places where food is stored, prepared, or exposed for sale, and transported.

Friday, 25th April, 1902.

The laws, by-laws, and regulations affecting the inspection and sale of meat and other articles of food, including their preparation and adulteration.

E. Petronell Manby, B.A., M.D., D.P.H.,
Medical Inspector, Local Government Board.

The fee for the two months' Course of training at the market and knacker's yard will be £3 3s., or for the complete Course, including the lectures and demonstrations at the Parkes Museum £3 13. 6d.

Members and Associates of the Institute are admitted to the lectures and demonstrations in the Parkes Museum without payment, but those wishing to attend the Course of training at the market and knacker's yard would be required to take a ticket for the Course, £3 3s.

U. HOLZER.
BINDER
BOSTON, MASS.